PRE-KINDERGARTEN CLASSROOM PRACTICES IN OKLAHOMA PUBLIC SCHOOLS: INFLUENCE OF TEACHER AND PRINCIPAL BELIEFS AND CHARACTERISTICS

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TABLE OF CONTENTS

Chapter Page

I. INTRODUCTION 1

Statement of the problem 2
Purpose of the study 4
Theoretical foundation 5
Study 1: Teacher beliefs, characteristics, and classroom practices 6
Study objectives 8
Study 2: Principal characteristics, beliefs, and preferred classroom practices 11
Study objectives 12

II. REVIEW OF LITERATURE 15

Classroom practices 15
Authoritarian beliefs 20
Study 1 Teacher characteristics, beliefs, and classroom practices 22
Teacher characteristics and teacher beliefs 22
Teacher characteristics and classroom practices 24
School schedule and classroom practices 26
Teacher beliefs and classroom practices 27
Possible confounds 29
Moderators and mediators pertaining to classroom practices 31
Hypotheses 32
Study 2: Principal characteristics, beliefs, and preferred classroom practices 33
Principal characteristics and principal beliefs 33
Principal characteristics and preferred classroom practices 34
Principal beliefs and preferred classroom practices 35
Mediators pertaining to principals' characteristics, beliefs, and preferred classroom practices 36
Hypotheses 36

III. METHODOLOGY 38

Research team 38
Ethical clearance 38
Study area 38

Chapter Page

Participants....39
Procedures....43
Measures....44
Study 1: Teacher characteristics, beliefs, and classroom practices....44
Teacher measures....44
Determining acceptable measures....44
Beliefs in developmentally appropriate practices....46
Beliefs in the importance of obedience....49
Teacher demographics and characteristics....51
Classroom practices....52
Classroom characteristics....58
School schedule....59
Study 2: Principal characteristics, beliefs, and preferred classroom practices....59
Principal measures....59
Determining acceptable measures....60
Developmentally Appropriate Practices Scale....62
Principal beliefs about testing....63
Principal beliefs about classroom practices....66
Principal demographics and characteristics....68
Data analysis....68
Study 1: Teacher's characteristics, beliefs, and classroom practices....69
Study 2: Principal characteristics, beliefs, and classroom practices....70

IV. RESULTS....73

Study 1: Teacher characteristics, beliefs, and classroom practices....73
Teacher characteristics and beliefs....73
Teacher characteristics and classroom practices....75
Classroom descriptions....75
Teacher beliefs and classroom practices....76
Moderators....78
Mediators....82
Study 2: Principal characteristics, beliefs, and preferred classroom practices....83
Principal characteristics and principal beliefs....83
Principal characteristics and preferred classroom practices....83
Principals' DAP beliefs and preferred classroom practices....86
Mediators....87

V. CONCLUSION....89

Overview of findings....89
Breakdown of findings....89

Study 1: Teacher characteristics, beliefs, and classroom practices 89
Study 2: Principal characteristics, beliefs, and preferred classroom practices 93
Limitations of the study 96
Strengths of the study 97
Future directions for curriculum, policy, and research 98
Conclusion 100

REFERENCES 101

APPENDICES 112
A. Glossary 112
B. Teacher Questionnaire 114
C. Principal Questionnaire 124
D. IRB Approval 128

LIST OF TABLES

Table Page

1. Teacher characteristics....4
2. Principal characteristics 5
3. Teacher measures used and alphas 45
4. Response ratios for teacher dichotomous variables 46
5. Teacher DAP measure 47
6. Beliefs in the importance of obedience.... 50
7. Classroom time allocated to DAP activities 53
8. Classroom time allocated to DIP activities.... 56
9. Classroom time allocated to scripted teaching.... 58
10. Classroom and school schedule descriptive information....58
11. Principal measures used and alphas.... 60
12. Response ratios for principal variables....61
13. Principal Developmentally Appropriate Practices Scale 63
14. Principal beliefs about DAP classroom practices 66
15. Correlations of teacher characteristics and teacher beliefs....74
16. Correlations for teacher characteristics and classroom practices 76
17. Teacher beliefs and classroom practices....78
18. Correlations of principal characteristics and principal beliefs....85
19. Correlations between principals' characteristics and preferred classroom practices 86
20. Correlations of principals DAP beliefs and preferred classroom practices 87

LIST OF FIGURES

Figure Page

1. Teacher characteristics, beliefs, and classroom practices theoretical model 7
2. Proposed teacher moderators 10
3. Proposed teacher mediators 11
4. Principal characteristics, beliefs, and preferred classroom practices theoretical model..... 11
5. Proposed principal mediators..... 14
6. Regression lines for the relations between teacher beliefs in DAP and DAP classroom practices as moderated by high and low levels of beliefs in the importance of obedience 81
7. Regression lines for the relations between teacher beliefs in DAP and DAP classroom practices as moderated by large and small county population size ...82
8. Mediators between principals' characteristics and principals' beliefs about teacher classroom practices 88

CHAPTER I

INTRODUCTION

Early childhood education is known to influence children's social, emotional, and physical development (Burger, 2010). The type and extent of the influence is dependent upon multiple factors including teacher/child ratio, teaching methods used, and teachers' beliefs regarding child learning (Phillips & Howes, 1987). Because public school pre-kindergarten (pre-K) education increased exponentially in the last twenty years but is not required for all children in most states, much of the research has been conducted in Head Start centers, private preschools, or kindergarten classrooms. Therefore, little research has been conducted on classroom practices and influences on classroom practices in public school pre-K. Developmentally appropriate practices (DAP), Priority Academic Student Skills (PASS), and No Child Left Behind (NCLB) all influence classroom practices in current public schools. Unlike private preschools and Head Start centers public school pre-K classrooms are influenced not only by DAP but also by PASS and NCLB. Research on teacher and principal beliefs and practices in pre-K classrooms is needed because they are the point of first contact for young children with the influence of PASS and NCLB on the implementation of DAP in the classroom.

Statement of the problem

Pre-K classes in public schools have different characteristics than most pre-K programs researched to date (private programs in child care centers and Head Start or Early Head Start). These public school characteristics include requiring lead teachers to have a bachelor's degree and certification in early childhood education (Oklahoma Department of Education, 2009), a principal from the elementary school who oversees operations rather than a child center director, mandated curriculum, and a set school schedule. All of these things may be mandated by persons not familiar with developmentally appropriate practices but typically with a higher education level than those directing a private child care center. Moreover, teachers' characteristics are related to teachers' beliefs. Research has shown that teachers' with more education have higher scores in beliefs about DAP (Buysse, Wesley, Bryant, & Gardner, 1999; Cassidy, Buell, Pugh-Hoese, & Russell, 1995; McMullen, 1999). Because child care center and kindergarten classroom practices vary based upon teachers' beliefs (Buchanan, Burts, Bidner, White, & Charlesworth, 1998), then we can hypothesize that public school pre-K classrooms should vary based upon teachers' beliefs and teachers' education. Standards for principals in the Oklahoma public schools include certification and continued education which is different from the requirements for child care center directors. Because principal characteristics and beliefs influence classroom practices for kindergarten classes and higher elementary school classes (Baker & Dever, 2005; Brewer, 1993; Bryant, Clifford, & Peisner, 1991), it can be proposed that principal characteristics influence pre-K classrooms.

Research shows that characteristics and beliefs of child care center directors and principals are related to teachers' beliefs and classroom practices with children of varying

ages (Brewer, 1993; Bryant, Clifford, & Peisner 1991; Curry, Washington, & Zyskowski, 1997). Because most of the research on this topic has taken place with older grades in public schools, child care centers, private preschools, and Head Start rather than public school pre-K classes, it is important to study the practices taking place in the public school programs for four-year-old children and factors that are correlated with or predictive of classroom practices. Because principals and their credentialing are unique to public schools, their training may be linked to their beliefs about classroom practices and expectations of teachers.

DAP are essential in the pre-K classroom for later positive child outcomes (National Association for the Education of Young Children [NAEYC] DAP Statement, 2009). Because Oklahoma is the first state to provide pre-K for all children, this study is designed to capture what practices are taking place in the classroom and the teacher and principal characteristics and beliefs that predict these classroom practices. Small districts, districts with only one elementary school, are the focus of this study for several reasons.66.5% of districts in Oklahoma have only one elementary school and are considered small districts. Additionally, many of these schools are in communities with smaller populations. According to the National Center for Education Statistics (NCES) at the U.S. Department of Education Institute of Education Sciences, schools in an area with a population concentration between 25,000 to 50,000 people are considered urban clusters and schools in an area with fewer than 25,000 people are considered rural (U.S. Department of Education Institute of Education Sciences [USDEIES], Retrieved on December 7, 2010). The current project was divided into two studies, one of teachers and one of principals. By the NCES guidelines above, in the teacher study 89% of the teachers were from communities with populations that were classified as rural. Similarly, in the principal study 91% of the principals were from

communities classified as rural Since studies have shown that rural schools have characteristics that are unique to their communities and to different regions of the United States (Flynn, 1994; Powell, Higgins, Aran, & Freed, 2009), it is important that practices and beliefs in these schools are studied as well.

It is important to study pre-K classrooms in the public school setting to determine future directions that should and could be taken as an increasing number of public schools and districts begin to offer pre-K. Having the information about principals and their influence on pre-K classrooms can assist in determining future policies for principals and teachers in training. Because the past literature is primarily from private preschools and Head Start centers and because teacher and director requirements for these establishments are different than those in the public schools, this study will provide needed information about the public school pre-K classrooms and administration.

Purpose of the study

The current project is an analysis of various factors that have been correlated with or predictors of classroom practices in child care centers and elementary classrooms. This dissertation is organized into two parts: 1) study one assesses teachers' characteristics, beliefs, classroom practices, and school schedule and 2) study two assesses principals' characteristics, principals' beliefs about DAP, and principals' beliefs about preferred teacher classroom practices in public school pre-K. This dissertation was designed to better understand pre-K classrooms in the public schools and administrator views about beliefs about pre-K. Additionally, it is hoped that this study will inform policy with regard to current teaching practices in public school pre-K classrooms in Oklahoma and to assist with teacher continuing education by determining possible topics that are of greatest need or interest to

teachers and administrators. Currently little is known about the teaching taking place in these public school classrooms. This study is designed to provide more information about teaching practices in public school pre-K classrooms and influences upon classroom practices.

Theoretical foundation

Human ecology theory describes the systems through which a person develops and the interactions of these systems. This theory discusses the individual, environments with immediate influence over the individual, and environments with more distant influence over the individual. Additionally, human ecology theory describes the interactions between the parts. An adapted version of human ecology theory forms the theoretical foundation for the current study. The basic premises for human ecology theory are: 1) the individuals, or parts, and the whole are interdependent, 2) the individual parts and the interaction of the parts constitute the whole, and 3) each level in the model depends on the other levels (Bubolz & Sontag, 1993). As a result of these basic principles, human ecology theory provides a way to conceptualize the interactions of any system involving multiple levels. Therefore, the interdependency of the levels in ecological theory must be analyzed.

The levels in ecology theory, as developed by Bronfenbrenner, begin on the personal level. At this level, the individual is defined as the focal person and is often a child (Bronfenbrenner, 1979). The next level is called the microsystem and consists of the immediate influences on the individual. This is the level at which development takes place and is the most basic unit of analysis in ecology theory (Bubolz & Sontag, 1993). The microsystem consists of relations between the individual and others, roles, and regularly occurring activities (Bronfenbrenner, 1979). The interactions between the microsystems are

called mesosystems. These may be processes or interactions that link two or more of the microsystems (for example, a child's parent or peer relationships). The third level is called the exosystem which contains the environments that directly influence the microsystem but indirectly influence the individual, for example the workplace environments of a child's parents (Bronfenbrenner, 1993). Ecology theory was adapted from the described model to fit pre-K classrooms and influences on pre-K classroom practices.

Study 1: Teacher beliefs, characteristics, and classroom practices

The focus of the current study is the classroom and interacting systems that influence classroom practices. Therefore, the focal point of the theory which is in the center circle in the concentric circles is classroom practices (see Figure 1). The outer layers of the model describe other systems which influence this focal point. Just as environments do not determine human behavior but rather provide possibilities and limitations for the individuals (Bubolz & Sontag, 1993), classroom practices are not dictated but are influenced by opportunities and constraints imposed by outside influences. Classroom practices in this study are defined as DAP practices, developmentally inappropriate practices (DIP), and scripted teaching. This study is designed to assess the interdependence of the systems and influences they have on classroom practices.

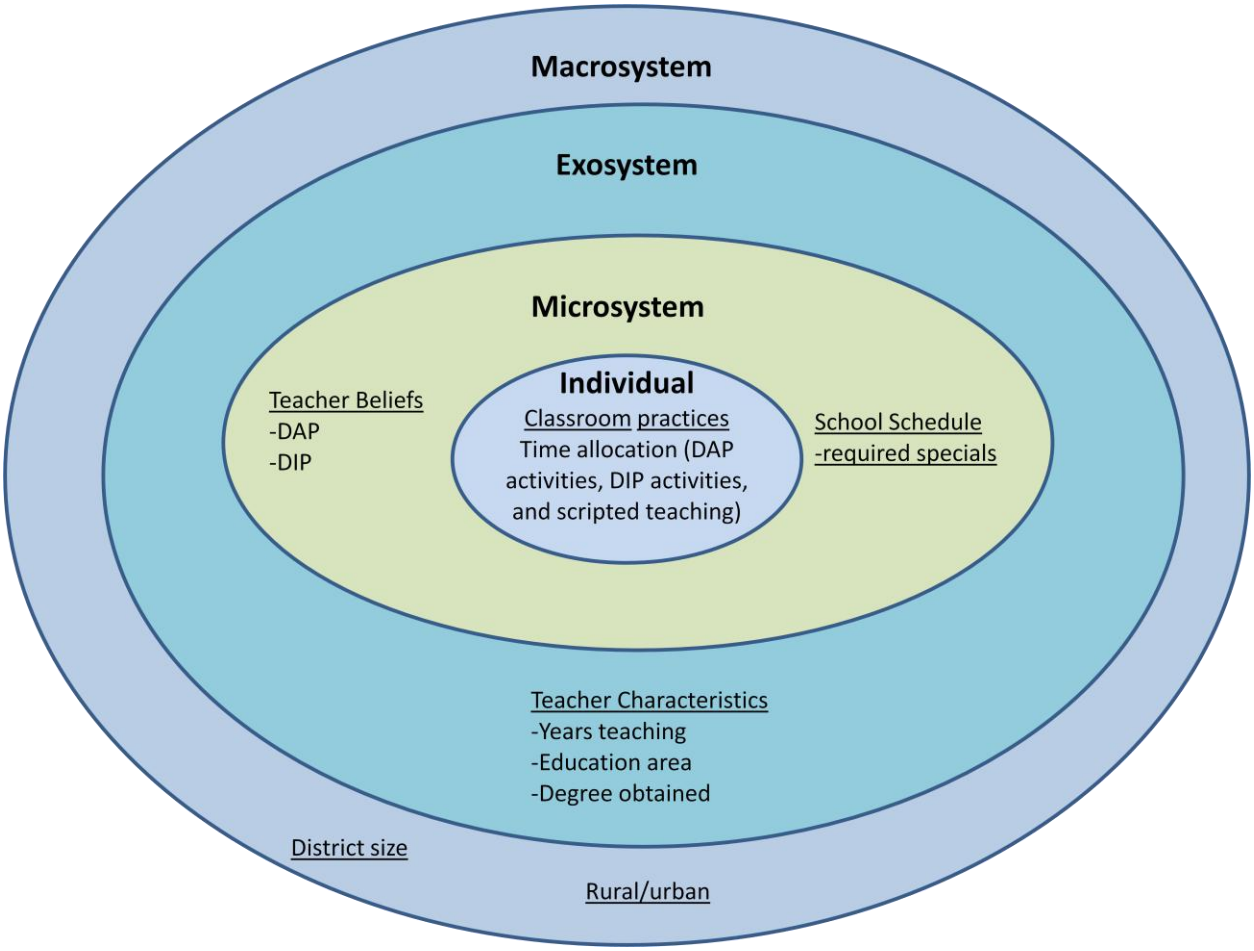


Figure 1. Study 1: Teacher characteristics, beliefs, and classroom practices theoretical model

Teachers' beliefs about DAP or DIP and school schedule are in the microsystem. School schedule includes activities that pre-K classes are required to attend that are "special" activities (specials) led in a specific learning area by a professional at the school other than the lead teacher for the pre-K class. Specials include music, physical education, computers, counselor-led activities, library, art, standardized test training, and foreign language. School schedule can influence classroom practices by limiting teaching and activity time.

Mesosystems are the interactions between the microsystems, or immediate environments surrounding the individual (Bubolz & Sontag, 1993). The mesosystem of interest in this study is the interaction of teachers' beliefs and school schedule. In the current

study, school schedule should be independent of teachers' beliefs since time for specials is determined by factors often out of the teachers' control.

The exosystem is described in human ecology theory as the contexts or settings that directly influence the microsystems or influence the individual through the microsystems. In this study, the exosystem consists of teacher characteristics and principal characteristics. The teacher characteristics used here are teacher certification type (e.g., alternative certification, passing the state certification test area, college teacher education program), years of teaching experience, the types of classrooms in which the teacher has taught, and area of education. Research has shown that teacher characteristics such as education are related to teacher beliefs about DAP (Baker, & Dever, 2005; Buchanan et al., 1998; French, & Pena, 1997).

Study objectives

Practices in pre-K classrooms in this study include time allocation. As reviewed in the literature, this has been linked to child outcomes. The objective of this study is to identify relations of each of the systems in Bronfenbrenner's model to classroom practices as well as examine pertinent interrelationships across levels. These relations include specific exosystems (teacher characteristics) to specific microsystems (teacher beliefs, school schedule) and to the individual (classroom practices) as well as relations of the individual to the microsystem: of individual classroom practices (time allocation to DAP, DIP, and scripted teaching) to teacher beliefs.

Guided by the research literature and in order to learn more about the practices in public school pre-K classrooms and the interdependence between the systems represented in this study, the research questions were developed. Before discussing the research questions,

one discrepancy between Figure 1 and the research questions must be mentioned. In terms of macrosystem to exosystem (district characteristics to teachers' characteristics), it is important to note that the sample used in this study is all from small districts in Oklahoma with one elementary school per district. This is part of an overall an in-depth study of the elementary schools in small school districts by Dr. Deborah Norris and Dr. Barbara Sorrels. Most small districts are in rural areas; therefore, the macrosystem has been eliminated from the current study.

- Exosystem to microsystem (characteristics to beliefs)
    - Are teachers' characteristics (degree obtained, certification held, number of years teaching, and grade taught) associated with teachers' beliefs about DAP?
- Exosystems to individual (characteristics to classroom practices)
    - Are teachers' characteristics (degree obtained, certification held, number of years teaching, and grade taught) associated with the classroom practices of time allocated to DAP, DIP, and scripted activities?
- Microsystem to individual (beliefs and school schedule to classroom practices)
    - Is the school schedule related to the following classroom practices:
        - Time allocated to DAP activities?
        - Time allocated to DIP activities?
        - Time allocated to scripted teaching?
    - Are teachers' beliefs about DAP evident in the following classrooms practices:
        - Time allocated to DAP activities?

        - Time allocated to DIP activities?
        - Time allocated to scripted teaching?

- Moderators
    - Are the relations of teachers' beliefs about DAP to time allocated to DAP activities, DIP activities, and scripted teaching moderated by school schedule (see figure 2)?

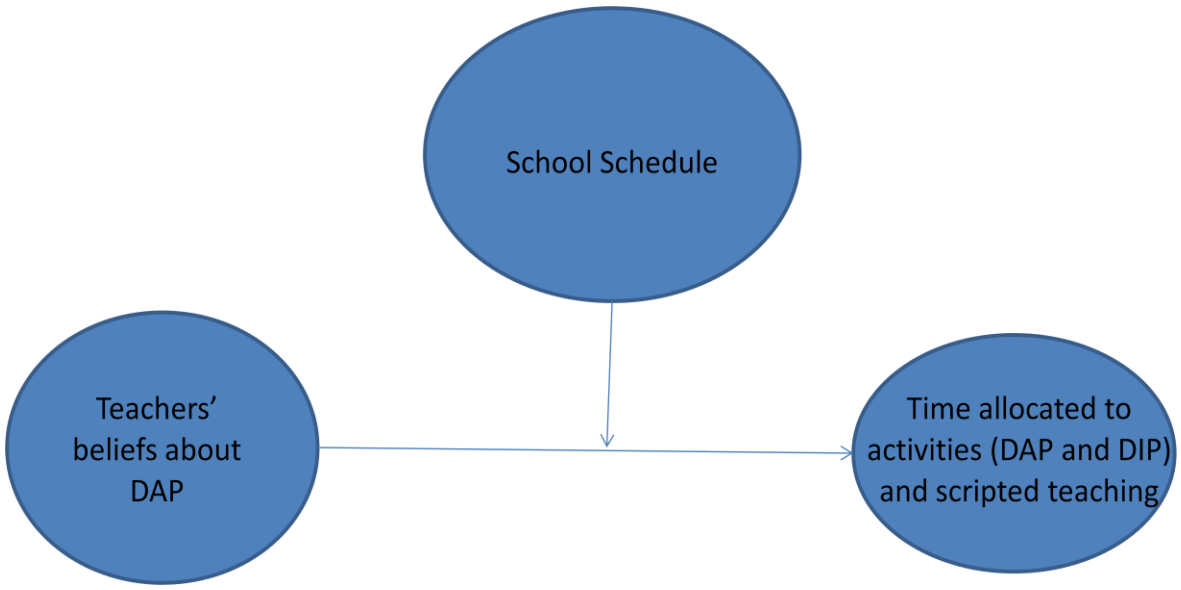


Figure 2. Proposed teacher moderators

- Mediators
    - Are the relations of teacher's characteristics (degree obtained, certifications held, number of years teaching, and grade taught) to classroom practices (time allocated to DAP activities, DIP activities, and scripted teaching) mediated by teachers' beliefs about DAP (see figure 3)?

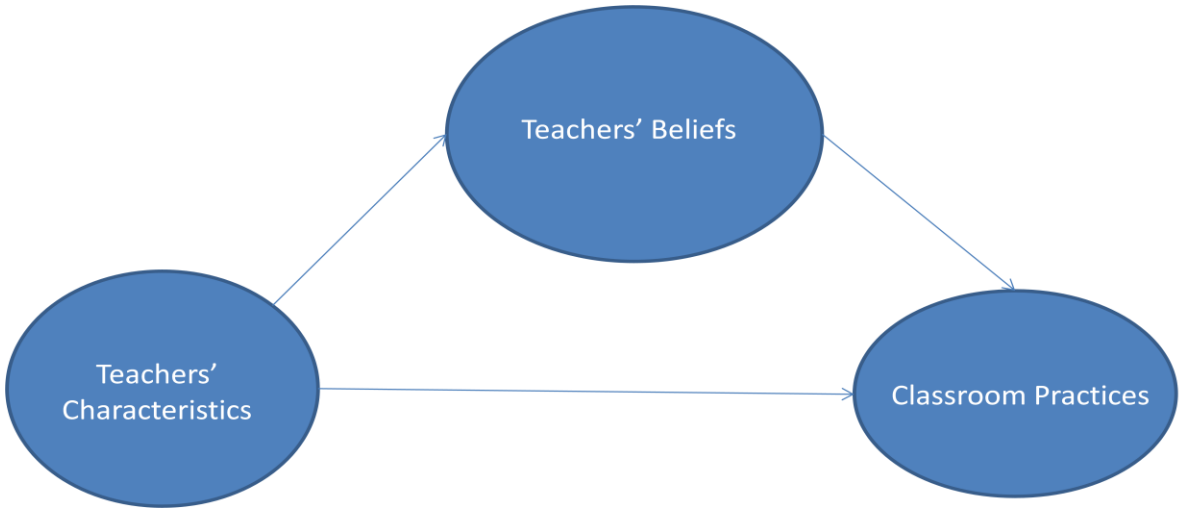


Figure 3. Proposed teacher mediators

Study 2: Principal characteristics, beliefs, and preferred classroom practices

The focus of study 2 is principals' beliefs regarding classroom practices. These beliefs are reflected in the amount of time that principals believe teachers should spend on different activities that are classified as DAP, DIP, or test centered. The microsystem of study 2 contains principals' beliefs (DAP, PASS objectives, and NCLB). No mesosystems were assessed in this study. In the exosystem, principal characteristics are certification type, courses taken in early childhood education, teaching experience (e.g., years teaching and classroom types), and experience as a principal (e.g., years of experience). Research has

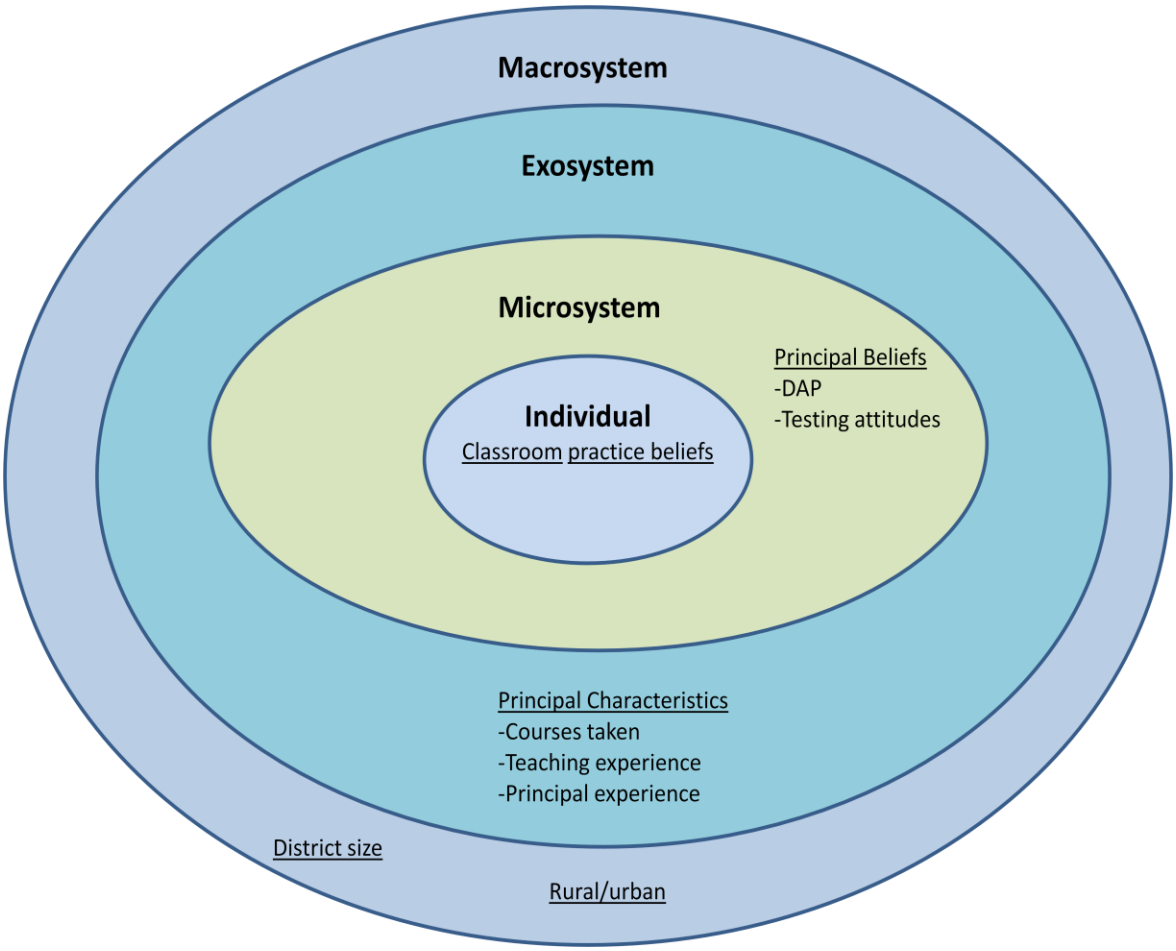


Figure 4. Principal characteristics, beliefs, and preferred classroom practices theoretical model

shown that principal characteristics are correlated with principal beliefs (Baker, & Dever, 2005; Buchanan, et al., 1998; French, & Pena, 1997).

Study objectives

The focus of this study is on exosystem, microsystem, and principal beliefs about classroom practices or influences. Relations studied include exosystem (principal characteristics) to microsystem (principal beliefs), exosystem (principal characteristics) to

individual level (principal beliefs about classroom practices), and microsystem (principal beliefs) to individual level.

Based upon this outline and supported by the theory presented above, the following research questions were developed. Before discussing the research questions, one discrepancy between Figure 1 and the research questions must be mentioned. Because all of the principals represent small districts with only one elementary school, and all but seven of the schools agreeing to participate were rural, the relations between the macrosystem and the exosystems were not assessed in this study.

- Exosystem to microsystem (characteristics to beliefs)
    - Are principals' characteristics (principals' experience, course work, degrees earned, certifications held, and teaching experience) associated with principals' beliefs about DAP and testing?
- Exosystems to individual (characteristics to classroom practices)
    - Are principal characteristics (principal experience, course work, degrees earned, certifications held, and teaching experience) associated with principals' beliefs about classroom practices (DAP and DIP)?
- Microsystem to individual (beliefs to preferred classroom practices)
    - Are principals' beliefs about DAP and testing attitudes related to the following beliefs about classroom practices:
        - Time allocation among DAP activities?
        - Time allocation among DIP activities?
        - Influence of DAP?
        - Influence of DIP?

- Mediators
    - Are the relations of principals' characteristics (degree earned, certifications held, course work, teaching experience) to principals' beliefs about classroom practices (time allocated to DAP activities, DIP activities, influence of DAP, and influence of DIP) mediated by principals' beliefs about DAP and testing attitudes (see figure 5)?

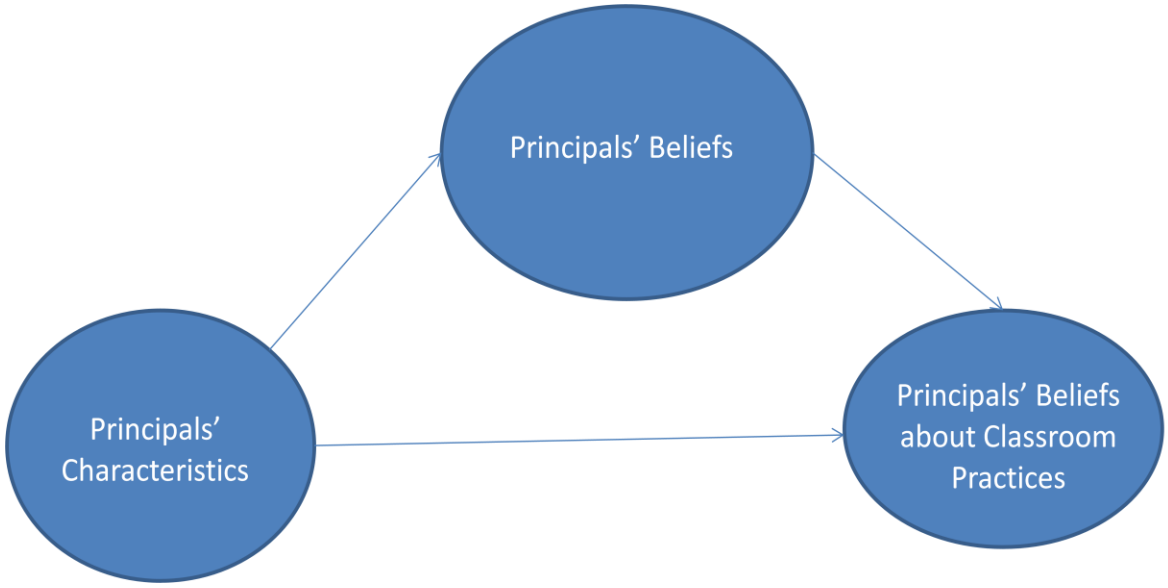


Figure 5. Proposed principal mediation model

CHAPTER II

REVIEW OF LITERATURE

Classroom Practices

The concept of DAP is not new to early childhood education or child development having been brought to the forefront by NAEYC in 1986 (Bredekamp, 1986). DAP refer to teaching methods where teachers design teaching based upon social, emotional, physical, and cognitive development, developmental theories, and each child's background and abilities (Maxwell, McWilliam, Hemmeter, Ault, & Schuster, 2001; McMullen, 1997; NAEYC, 2009). The NAEYC defines DAP to include: knowing each child's abilities and providing activities and goals that are challenging yet attainable. DAP are based on research about how children learn and develop best (NAEYC, 2009). DAP include child-centered/initiated activities and a variety of other teaching approaches (Hirsh-Pasek, Golinkoff, Berk, & Singer, 2009; NAEYC, 2009). These DAP have been linked to child outcomes, pertaining to social, emotional, and cognitive development which include childhood stress, learning motivation, reading/vocabulary skills, math/number skills, interpersonal social skills, and exploration (Hirsch-Pasek, et al., 2009).

As noted in Chapter 1, much of the previous research on children in pre-kindergarten programs has been conducted with children enrolled in Head Start. Developmentally appropriate teaching practices of teachers were studied by Huffman and Speer (2000) in relation to the academic achievement of kindergarten and first grade children. The study took place in urban schools with primarily African American and Hispanic participants from Head Start but also from Public School programs. Classrooms with greater levels of DAP had significantly higher child achievement than classrooms with lower levels of DAP indicating that DAP can improve children's achievement in an urban setting. Stipek, Felier, Daniels, and Milburn (1995) conducted a similar study with child-centered preschools (a.k.a., developmentally appropriate preschools) and didactic, highly academic programs (a.k.a., developmentally inappropriate preschools). In contrast to Huffman and Speer (2000), this study showed that children from the didactic, highly academic programs often had higher scores in preschool for letters/reading achievement than children from child-centered programs; however, the scores were equivalent for children on numbers achievement tests. Consistent with Huffman and Speer's (2000) findings, children in the didactic programs had relatively negative scores on motivation measures as compared with children from the child-centered programs where their counterparts rated personal abilities significantly higher, had higher expectations for success, worried less about school, had greater pride in their accomplishment, and had lower dependency on adults.

In studies of Head Start children, DAP such as interactive play in the classroom assist children with long-term cognitive outcomes. Coolahan, Fantuzzo, Mendez, and

McDermott (2000) found that increased levels of Head Start children's positive interactive play were related to indicators of positive engagement in classroom activities such as attention, persistence, and positive attitude. In the same group of children, disconnection in play was associated with inattention, decreased motivation, and passivity during classroom learning activities. Another study of children in Head Start found that children with successful peer interactions throughout the year demonstrated increased cognitive, social, and gross motor/coordination outcomes and also that higher levels of children's peer play interaction were positively related to their increased vocabulary skills (Fantuzzo, Sekino, & Cohen, 2004). Time interacting in free play or child-centered activities encourages interaction between children and assists them in social development (Hirsch-Pasek et al., 2009). In the same Head Start study mentioned above, children were observed and it was found that increased amounts of peer play interaction in children were positively related to competent emotional-regulation, initiation, and self-determination (Fantuzzo et al., 2004). The same study found a negative correlation between children's positive engagement and aggression, shyness, and withdrawn adjustment.

Child social outcomes have been linked to teaching practices in the classroom and to patterns in children's play. Smith and Croom (2000) studied the relation between second grade children's self concepts and teachers' beliefs about DAP in a small, urban school district. Multiple regression analysis revealed that teachers' beliefs regarding more traditional teaching methods explained variance in the boys' later academic self concept beyond the variance explained by earlier academic self concept scores. In this study, as traditional teaching methods increased, boys' later academic self concept decreased.

DIP are not just the absence of specific practices but include the presence of specific practices. These practices included in DIP are actions that are not suited for children of specific ages based upon the developmental stage of the child and may include: regimented teaching styles (e.g., scripted teaching), didactic teaching, workbooks, rote memorization, and teacher-initiated activities (NAEYC, 2009). Additionally, DIP do not take into consideration the developmental levels of the children in the classrooms and individual abilities (Elkind, 1987; NAEYC, 2009; Zeng & Zeng, 2005).

DIP in classrooms have been linked to stress levels of children and influence the involvement of children in learning. Burts, Hart, Charlesworth, Fleege, Mosley, and Thomasson (1992) conducted a study in which kindergarten classes were identified by classroom type (developmentally appropriate or inappropriate) and found that males in developmentally inappropriate classrooms exhibited higher levels of stress than their male counterparts in the developmentally appropriate classrooms. Additionally, African American children in inappropriate classrooms exhibited greater levels of stress than white children did except during group story time when the white children had higher levels of stress (Burts et al., 1992). Higher levels of stress were exhibited during workbook/worksheet time for all children in developmentally inappropriate classrooms.

Teacher-directed teaching and scripted teaching are less appropriate for preschool-aged children than child-initiated learning and child-centered teaching (Hirsh-Pasek et al., 2009). There are great differences between child outcomes of teacher-directed and child-initiated classrooms in a longitudinal study. Marcon (2002) studied later school success of children and the influences of teaching methods used when the

children were age four years. At the end of their sixth year in school, children who had attended more child-initiated preschool classes had significantly higher grades than the children who attended more academically directed preschools. Moustafa and Land (2001) found that highly scripted teaching did not produce higher reading skills for economically disadvantaged children (schools where 97 to 100% of the children receive free or reduced-price meals). In addition, schools that used the heavily scripted teaching for reading for more than ten years were significantly more likely to have children in the bottom quartile of scores on the Stanford Achievement Tests, Ninth Edition (SAT 9) than schools that used non-scripted teaching methods (Moustafa & Land, 2001).

Stress in kindergarten and preschool has increased over the years to the detriment of children. A study of North Carolina kindergarten teachers revealed that the teachers recognized seven different types of stress (e.g., family stress due to divorce, death, the birth of a new baby, or stress from difficult academic tasks) in the children in their classrooms. Trauma in the family from divorce or separation was the greatest cause of stress. The second highest cause of stress for the kindergarten children was from academic tasks the children were developmentally unable to complete (Wiedey & Lichtenstein, 1987). This stress can result in children acting out and eventual expulsion (Gilliam, 2005). Free play and outdoor play, which are both DAP, in the preschool decreases the amount stress that a child feels and can increase productivity as children learn through play (Hirsh-Pasek et al., 2009). Additional consequences of this stress for children are expulsion and even being retained in the same grade from year to year (Gilliam, 2005).

Expelling and retaining children in preschool years, despite the long-term consequences for the children, is becoming increasingly prevalent in schools (Gilliam, 2005; Zepeda, 1993). A study of 40 states in the United States reported that pre-K children in all but three of the participating states were being expelled from school at nearly three times the number of students being expelled in kindergarten through twelfth grades (Gilliam, 2005). Retention of children from year to year is a modern concern for early childhood education and has been connected with teaching practices (Zepeda, 1993; Parker & Neuharth-Pritchett, 2006). In a study of retention rates for children in kindergarten and first grades in public schools, the schools with higher retaining rates had a lower use of DAP in the classrooms as reported by teachers. In these schools, teaching strategies concentrated on formal reading instruction and emphasized taking tests. In contrast, in the schools where lower rates of child retention were reported between grades, teachers had higher levels of activities focusing on manipulatives, activities considered to be DAP (Zepeda, 1993). Parker and Neuharth-Pritchett (2006) found similar results in their study of kindergartners. Fewer children were retained in kindergarten classrooms with practices inclusive of higher levels of developmental appropriateness and teachers with more child-centered practices (Parker & Neuharth-Pritchett, 2006).

Authoritarian beliefs

Classroom design and teacher characteristics set the context in which children develop socially and academically. When contexts are not designed appropriately to challenge the children through consistent management and supportive practices the child outcomes are not optimal (Walker, 2008). Birch and Ladd (1998) studied children from

kindergarten into first grade. The relationship between the teacher and the child in first grade was in part described by children's earlier antisocial, asocial, and prosocial behavior. In addition to the relation between child behavioral orientations, various features of the teacher-child relationship were predictive of child behavioral adjustment.

Although it was not a study of young children, Walker (2008) studied math teachers in rural fifth-grade classrooms and their students by assessing teaching practices and styles as well as student outcomes. Teachers with more authoritative styles had students who were more academically and socially competent. In contrast, children in classrooms with teachers who held more authoritarian beliefs had lower levels of engagement and lower beliefs in their personal abilities.

According to Schaefer and Edgerton (1985), adults who have higher traditional scores on the Parental Modernity Scale believe children are created alike and it is the adults' responsibility to shape children into the people they are to be as well as to dictate to children what they need to do (Schaefer & Edgerton, 1985). These adults are more likely to emphasize child obedience and parental authority (National Institute of Child Health and Human Development [NICHD] Early Child Care Research Network [ECCRN], 2004). An observational study of six-month-old infants during nonmaternal child care was conducted and showed that teachers with less authoritarian beliefs regarding child rearing provided more positive care giving for the children (Vandell, 1996) than teachers with more authoritarian beliefs.

Study 1: Teacher characteristics, beliefs, and classroom practices

Teacher characteristics and teacher beliefs

Teacher characteristics include, but are not limited to, type of teacher certification (alternative or college teacher education program), certifications held, highest degree completed, number of courses in child development, college courses in early childhood education, and years of teaching experience. Teacher characteristics influence teachers in their beliefs regarding DAP and modernity (Baker, & Dever, 2005; Buchanan et al., 1998; Cassidy et al., 1995; McMullen, 1999). After controlling for classroom characteristics such as class size, grade level, and number of children with disabilities, one study found that 19% of the variance in classroom practices was influenced by teacher characteristics (education level and years teaching). Of that 19% variance explained, 17% of the total variance was specifically attributable to teacher education (Maxwell, et al., 2001). Additionally, teacher characteristics such as area of certification and perceived relative influence significantly predicted developmentally inappropriate practices in first, second, and third grade classrooms even after controlling for classroom variables (number of students in class, grade, number of children with disabilities, and number of children receiving free or reduced lunch: Buchanan et al., 1998).

Teacher education has been associated with teacher beliefs regarding DAP in different child care centers and elementary classrooms. Teachers who completed twelve to twenty hours of course work in early childhood education at a junior college made significant gains during year-end assessments on the Early Childhood Environment Rating Scales or the Infant-Toddler Environment Rating Scales and had increased significantly in beliefs regarding DAP. These increases were significantly greater than

those made by teachers who were not participating in the education programs but were teaching at the same schools (Cassidy et al., 1995). Another study of early childhood settings found a significant positive correlation between teachers' self-ratings of education and classroom total scores on the Early Childhood Environment Rating Scale (ECERS) regardless of whether or not the class included children with special needs (Buysse et al., 1999). Teachers with certifications in early childhood education and teachers with fewer years of experience had a greater belief in DAP (Vartulli, 1999).

The number of years a teacher has taught also has been linked with DAP. McMullen (1997) studied teachers who were new to teacher education programs, student teachers, novice teachers (three years or less of teaching experience), or veteran teachers (four or more years of teaching experience). Veteran teachers had significantly higher DAP scores than teachers entering teacher education programs or student teachers but novice teachers' mean DAP scores did not significantly differ from any of the other groups. However, Brosseau et al. (1988) found that the longer a teacher had been teaching in a classroom the more likely he or she was to hold the children to the same standards and to use set curriculum for all children, both practices that are not developmentally appropriate.

Type of education did make a difference but this was not necessarily reflected in certification type. McMullen (1997) found that significantly more teachers with "high" DAP (those with observed practices scores greater than the overall mean) had classes in early childhood education or child development in their educational experiences than teachers with "low" DAP (those with observed practices scores below the overall mean). Teacher education has been correlated with teacher beliefs (NICHD, 1996). The NICHD,

1996, observational study of infants reported that teachers with higher levels of education had more nonauthoritarian beliefs regarding child rearing and care giving than did teachers with lower levels of education. Higher levels of education in the specialized area of childcare or child education were significantly, positively correlated with higher levels of authoritarian beliefs. This same study also found that the amount of experience that the caregivers had was significantly, positively correlated with nonauthoritarian beliefs. Nonauthoritarian beliefs were defined as a caregiver who believes that children are inherently good, enjoy learning through action, and should be able to disagree with authority (Schaefer & Edgerton, 1985).

Based upon the literature reviewed, teacher characteristics are related to teachers' beliefs. Teachers' with more years of teaching experience, with certification from an early childhood education program, and with teacher certification in early childhood education will have higher scores in DAP beliefs. Teachers' with higher levels of education will have lower authoritarian scores.

Teacher characteristics and classroom practices

There are conflicting research results regarding teacher education programs and classroom practices. While some research has shown that teachers who have completed programs in early childhood education or those with higher levels of education have higher levels of DAP in their classrooms (McMullen, 1999), other studies have not found this to be true (Goodman, 1988; Zeichner & Tabachnick, 1981). The studies finding that teacher education is not necessarily correlated with teacher DAP found that this is so because teachers' DAP beliefs are set before most teachers have entered into a teachers'

education program (Goodman, 1988; Zeichner & Tabachnick, 1981). Wood, Cobb, and Yackle (1990), on the other hand, found that graduates of strong teacher training programs that place a high value on DAP and have strong supervision of student teachers during their teaching experience have increased levels of DAP in their classrooms. In a group of child care providers caring for children 15, 24, and 36 months of age, teacher education was significantly correlated with classroom practices (NICHD, 2000). In turn, these characteristics influence the classroom practices of the teacher (Maxwell, et al., 2001). DAP in the classroom also increased when teachers had schooling in early childhood education or child development or if they had previously worked in a preschool as compared with teachers who did not have a teaching or educational background in this area (McMullen, 1999).

Teachers' years of experience also has been correlated with classroom practices – but not consistently. Teachers with more years of teaching experience had lower levels of positive caregiving (NICHD, 2000) for infants at six months of age than did new teachers. However, Phillips, Gormley, and Lowenstein (2009) studied pre-K classrooms in Tulsa, Oklahoma and found that classroom literacy exposure was positively correlated with teachers' years of experience. Another study found that teachers with fewer years of teaching had higher DAP belief scores and implemented more DAP practices in their classrooms than teachers with more years of experience (Vartulli, 1999).

Pianta, Mashburn, Downer, Hamre, and Justice (2008) found that continued professional development which included consultation and feedback increased the quality of teacher interactions with children over that of teachers who participated only in teacher training with websites and video clips. In addition to teacher education and continued

teacher training, alternative certification of elementary school teachers was the focus of a study conducted in New York City. These teachers all had bachelor's degrees and had elected to have a second career in teaching in low performing schools. All of the teachers reported using DAP practices in their classrooms (child-centered teaching methods) with over half of the teachers electing not to use DIP practices (scripted teaching methods) at all. Additionally, over half of the teaching time was concentrated on experiential learning, a developmentally appropriate practice (Bisland, O'Connor, & Malow-Iroff, 2009). Thus, teachers who have completed alternative certification use DAP in their classrooms.

In conclusion, research on teacher characteristics in relation to classroom practices has varied findings. Taking into consideration the fact that the proposed study is not an observational study as many of the studies with classroom practices as the outcome variable are, the hypotheses for this section are teacher characteristics (teacher education area, years of teaching experience, and type of certification) are positively related to classroom frequency of DAP as reported by the teachers.

School schedule and classroom practices

A study in Sweden found that when teachers were given the freedom to design and implement their own schedules one major trend was towards more free time (Nyroos, 2008). In turn, decreases in free time have implications for classroom practices as suggested in several studies. In the state of Mississippi, a study called Cultivate Learning Environments to Accelerate Recruitment and Retention (CLEAR) project was conducted with principals and teachers. This study found that principals felt that teachers were

important on all fronts and that the teachers were empowered but the teachers in the study disagreed. This study also recommended that administrators should experiment more with school schedules in order to provide more non-instructional time for the teachers (Berry, Fuller, & Williams 2008). Sutterby (2007) states that as administrators receive increased pressure for high scores on testing that free time and recess are decreased in the school schedule. As this happens, DAP in the classroom decrease. District curriculum mandates place demands on the school schedule. Most of these mandates are placed to increase test scores and stipulate time allocated to training for test taking and often specify or imply scripted teaching (McIntyre, Rightmyer, & Petrosko, 2008). Therefore, curriculum mandates affect school schedule. In conclusion, the hypothesis relating to this literature is that school schedule is related to time distribution in the classroom. Specifically, school schedule time allocated to specials and test training is negatively related to classroom time allocated to play and DAP activities. Additionally, school schedule time allocated to test training is positively related to scripted teaching.

Teacher beliefs and classroom practices

Teacher beliefs pertaining to DAP have inconsistent patterns of correlations with classroom practices (e.g., teaching methods and time allocated to various activities; Parker & Neuharth-Pritchett, 2006). These discrepancies may be due in part to the findings that educators and child developmentalists alike believe that kindergarten and preschool is becoming more academic and, therefore, less developmentally appropriate for children. This shift to a concentration on academics for preschoolers is due in part to pressures within the school (e.g., from teachers of higher grades and principals) and external pressures (e.g., NCLB, parents, and school boards: Hirsh-Pasek et al., 2009;

NAEYC DAP, 2009; Parker & Neuharth-Pritchett, 2006; Wiedey, & Lichtenstein, 1987). This was reported by teachers who, independent of teacher's use of DAP or other practices used in the classroom, believe that kindergarten is becoming more academic (Hatch & Freeman, 1988; Parker & Neuharth-Pritchett, 2006). The Hatch and Freeman (1988) qualitative study reported two broad generalizations. One was teachers believed that kindergarten was becoming more academic in nature and lent itself to increased skill development than in years past. The Parker and Neuharth-Pritchett (2006) study found teachers using either child-centered activities or teacher-directed activities believed that kindergarten was turning more academic. This increased concentration on academics in the preschool classroom is also reflected in the small amount of DAP taking place in classrooms. In an observational study of 103 kindergarten classrooms in one state, only 20% of the classrooms met or exceeded the criterion for developmentally appropriateness. The quality in these classrooms was predicted by teachers' and principals' beliefs about DAP and the study did not find teacher or principal education level to predict classroom practices beyond that predicted by DAP beliefs (Bryant et al., 1991).

This shift to more academic classrooms has increased pressure on pre-K teachers to change their teaching methods. In their 2006 study of 34 kindergarten teachers, Parker and Neuharth-Pritchett (2006) found that teachers using a child-centered approach indicated more pressure from first-grade teachers in their schools than did the kindergarten teachers using a teacher-directed approach. However, teachers who used a teacher-directed approach felt that they had little control over the curriculum that was mandated for them to use by district policies and teachers using a child-centered

approach felt that they had more control over curriculum selection. This finding supports the inference that teachers who use teacher-directed methods may feel they are not able to select the best teaching method for their classrooms due to state and district mandates.

There are gaps between teachers' beliefs about DAP and what is actually taking place in the classrooms. Some of this discrepancy between beliefs and practices is explained by the degree to which a teacher believes in DAP. A study of the characteristics of teachers who believe in and use DAP and teachers who believe in DAP but do not practice DAP showed that teachers with stronger DAP beliefs were more likely to practice DAP in their classrooms (McMullen, 1999). Vartulli found that observed classroom practices for Head Start through second grade classrooms supported teacher beliefs in DAP (Vartulli, 1999). Teachers' beliefs about DAP are positively correlated with time allocated to DAP and amount of time allocated to play in the classroom and are negatively related to amount of scripted teaching.

Possible confounds

Although the literature reviewed above confirms that teachers' beliefs about DAP are positively correlated with DAP and negatively correlated with DIP and scripted teaching, other factors may obscure these relationships. Variables that influence teaching methods are classroom characteristics including ethnicity composition of the students, number of students in the class, and grade level. Early, et al. (2010) found that the composition of children in state-funded pre-K programs changed the type of activities in the classrooms. Children in classes with fewer Latino and African American children and with higher income-to-need ratios were engaged in richer experiences that were more

stimulating for the children. Another study found that 13% of the variance in developmentally appropriate classroom practices was explained by classroom characteristics including classroom size, grade level, and number of students with special needs (Maxwell, et al., 2001). This suggests that classroom characteristics (class size and number of children on an Individualized Family Service Plan [IFSP] or Individualized Education Program [IEP]) might be covariates that could influence the relation between the micro system variables and classroom practices. IFSP and IEP are developed for children who have special needs and are receiving an intervention. Because of these other factors that influence classroom practices, it will be important to note them in the design of this study

Maxwell et al. (2001), studied teachers and found that up to 42% of the variance in observed classroom practices could be explained by teacher beliefs, teacher characteristics, and classroom characteristics. After controlling for classroom characteristics and teacher characteristics, 11% of the variance in observed classroom practices was accounted for by teacher beliefs in DAP and DIP. Of these, the teachers who reported higher DAP beliefs had more DAP observed in their classrooms. The reverse was true for the teachers who reported more DIP beliefs. Teacher beliefs regarding authoritarian childrearing practices are related to classroom practices. In the 2000 study by the NICHD, child care providers, caring for children 15, 24, and 36 months of age, who had less authoritarian beliefs provided higher levels of positive care for the children than the teachers with higher levels of authoritarian beliefs.

Moderators and mediators pertaining to classroom practices

The divergence between teacher beliefs (i.e., DAP) and actual classroom practices needs to be further explored. There are discrepancies between teachers' beliefs regarding DAP and actual classroom practices (McMullen, 1999) and teachers, directors, and supervisors do not always believe that their kindergartens are best meeting the needs of the children participating in the programs (Hatch & Freeman, 1988). Reasons given for the discrepancy between beliefs and practices in the classroom are pressure from teachers in higher grades, parents, and administration (Stipek & Byler, 1997). Baker and Dever (2005) found that principals to be a main focus in teachers' curricular selection.

These discrepancies in the current literature create a need for further exploration as to the reasons for these discrepancies. The following hypotheses were developed to determine whether school schedule is a moderator between teachers' beliefs and classroom practices. Proposing a moderator is congruent with the inconsistencies in the research literature. As noted by Baron and Kenny (1986), moderators are proposed when some studies find a positive correlation, others find a negative correlation, and/or other studies find a correlation that approaches 0. Thus, the current study will test the hypothesis that the relations of teachers' beliefs about developmentally appropriate practices to time allocated to activities (DAP and DIP) are moderated by school schedule. Further, the current study will test the hypothesis that the relations of teachers' beliefs about developmentally appropriate practices to time allocated to scripted teaching are moderated by school schedule.

Additionally, mediators are proposed to explain the paths between teachers' characteristics and classroom practices. As noted by Baron and Kenny (1986) mediators are the mechanism by which the predictor variable influences the outcome variables. Mediating hypotheses in the current study are as follows: the relations of teachers' characteristics (teaching experience, courses taken, certification area, type of certification, and field of study in college) to classroom practices (time allocated to DAP activities, DIP activities, and scripted teaching) are mediated by teachers' DAP beliefs .

Hypotheses

The following hypotheses were derived from the research questions and supported by theory.

Hypothesis set 1- Exosystem to microsystem (characteristics to beliefs)

a) Teachers' DAP beliefs are associated with teacher characteristics (DAP is negatively correlated with alternative certification and positively correlated with number of years teaching; DAP is positively correlated with certification in early childhood education; DAP is positively correlated with field of study [early childhood education or human development versus other]).

Hypothesis set 2- Exosystem to Individual (characteristics to classroom practices)

a) Teachers' characteristics are related to classroom practices as reported by the teachers (teacher education area, years of teaching experience, and type of certification are positively related to classroom DAP activities).

Hypothesis set 3- Microsystem to individual (beliefs to classroom practices)

a) Teachers' beliefs about DAP are positively related with time allocated to DAP activities and are negatively related to amount of scripted teaching and time spent on DIP activities.

Hypothesis set 4- Moderators

a) The relations of teachers' beliefs about DAP to time allocated to DAP activities, DIP activities, and scripted teaching are moderated by school schedule.

Hypothesis set 5- Mediators

a) The relations of teachers' characteristics (number of years teaching, degree obtained, and field of study college) to classroom practices (DAP activities, DIP activities, and scripted teaching) are mediated by teachers' DAP beliefs.

Study 2: Principal characteristics, beliefs, and preferred classroom practices

Principal characteristics and principal beliefs

Principal characteristics are defined in this study as types of certification, courses taken in early childhood education and child development, teaching experience, and experience as a principal. Principal beliefs include beliefs regarding DAP, testing attitudes, modernity, and allocation of time. School characteristics (rural/urban and district size) as well as principal characteristics are related to principal beliefs. A study of elementary school principals in Idaho found principals to be in moderate agreement with DAP. The principals from more rural areas were in even less support of DAP practices than principals from more populated areas. Principals from the more rural districts believed the greatest influences on implementing DAP were teachers' beliefs, parent

expectations, and principals' beliefs. All of the interviewed principals desired a developmentally appropriate approach to teaching in the kindergarten classrooms. Some of the greatest obstacles to implementing DAP in the classrooms, according to the principals, were not having large amounts of time for in-depth work, outside perceptions that some DAP methods do not include enough skill development, and the need for the children to obtain certain scores on standardized testing (French, & Pena, 1997). In conclusion, the literature review leads to the hypotheses that principal characteristics are related to principal beliefs regarding DAP, in particular, that principals' education and belief in the importance of standardized tests are predictors of DAP beliefs.

Principal characteristics and preferred classroom practices

Principal characteristics have been connected directly to classroom practices. Bryant et al. (1991) found that principals' beliefs were predictive of classroom practices and accounted for variance in classroom practices above the amount of variance accounted for by teachers' beliefs. However, the same study found that principals' characteristics were not among the best predictors in the regression equation. A study by French and Pena (1997) of elementary school principals, found that the principals did desire DAP be used in kindergarten classrooms. The literature regarding principals' characteristics and DAP in the classroom is currently inconclusive because the Bryant et al. (1991) study found that principals' characteristics (years teaching, years as principal, highest degree earned, and teaching experience area) was not a significant predictor of classroom practices after teacher and principal beliefs were accounted for. Thus, the hypothesis that principals' characteristics will be related to principals' preferred classroom practices will be tested to clarify inconclusive findings.

Principal beliefs and preferred classroom practices

Principal beliefs influence classroom practices (Baker & Dever, 2005). This is through teacher selection and school schedule, as previously discussed, and through support of the teachers and school mandates. One of these influences is principals' views of standardized testing. Minimal information exists regarding principals' attitudes towards testing of pre-K children. However, links regarding principal's attitudes towards testing of older children have been studied. Testing given in the public schools which have both high rewards as well as great consequences are referred to as high-stakes testing and include standardized testing in schools and tests such as the SAT, ACT, GRE and MCAT (Heubert & Hauser, 1999). Schools under the NCLB policy are now classified by scores on such tests (Heubert & Hauser, 1999). An emphasis on these tests or the need for higher scores has decreased the amount of time allocated to recess and free play time even though these activities are beneficial for children and increase their ability to learn (Sutterby, 2007). The implementation of NCLB influenced classroom practices by intensifying an emphasis on reading and math and decreasing the amount of time teachers felt they could allocate to play and fun (Baker & Dever, 2005). The novice teachers in this study mentioned the principals' emphases on reading and math as being priorities in the local area (Baker & Dever, 2005)

In 1991, Bryant et al. conducted an observation of kindergarten classrooms of which only 20% were developmentally appropriate by state standards. Teachers' and principals' beliefs about DAP predicted whether a classroom met the DAP standards or not. Stipek and Byler (1997) asked teachers to list reasons that DAP were not followed in their classroom. Teachers reported that administration and mandates from administration

were some of the reasons for the divergence between teachers' beliefs in DAP and classroom practices.

Several hypotheses were developed as a result of the literature reviewed in this section. These hypotheses state that principals' beliefs about DAP, non-traditional testing attitudes, and allocation of time for developmentally appropriate activities are positively correlated with principals' preferences for classroom time spent in developmentally appropriate activities and play but negatively correlated with preferences for scripted teaching time and other DIP activities.

Mediators pertaining to principals' characteristics, beliefs, and preferred classroom practices

Mediators were proposed to explain the paths between principals' characteristics, beliefs, and preferred classroom practices. As noted by Baron and Kenny (1986) mediators are the mechanism by which the predictor variable influences the outcome variables. Mediating hypotheses in the current study are as follows: the relations of principals' characteristics (number of courses in early childhood education, teaching experience, certification area, and certification type) to preferences about classroom practices (time allocated to DAP and DIP activities and the beliefs about influences on teachers' classroom practices) are mediated by principals' own personal beliefs about DAP and testing attitudes.

Hypotheses

The following hypotheses were derived from the research questions and supported by theory.

Study 2: Principal characteristics, beliefs, and preferred classroom practices

Hypothesis set 1- Exosystem to microsystem (characteristics to beliefs)

a) Principals' DAP beliefs are related to principal characteristics (DAP is positively correlated with increased number of courses in early childhood education and ECE certification; DAP is negatively related to alternative certification).

Hypothesis set 2- Exosystem to Individual (characteristics to classroom practices)

a) Principals' characteristics (years teaching, years as principal, highest degree earned, degree area, certifications held, and teaching experience area) are positively correlated with preferred classroom practices (time allocated to DAP and DIP activities) and beliefs about influences on teachers' classroom practices).

Hypothesis set 3- Microsystem to individual (beliefs to preferred classroom practices)

a) Principals' beliefs about DAP, non-traditional testing attitudes, and allocation of time for DAP activities are positively correlated with principals' preferences for time allocated to DAP activities but negatively correlated with principals' preferences for time allocated to DIP activities.

Hypothesis set 4- Mediators

a) The relations of principals' characteristics (number of courses in early childhood education, years teaching in a pre-k or kindergarten classroom, and years as a principal) to principals' preferences for time allocated to DAP activities and DIP activities are mediated by principals' beliefs (DAP and testing attitudes)

CHAPTER III

METHODS

Research team

The research team for this project included Dr. Barbara Sorrels, Dr. Deborah Norris, Dr. Laura Hubbs-Tait, and D'Lee Babb. Drs. Sorrels and Norris selected the measures to be used and worked together to develop other questions to ask teachers regarding classroom practices and perceived influences on these practices, design participant data collection, and developed the scripts. Dr. Hubbs-Tait advised the data analysis plan and writing of this dissertation.

Ethical clearance

Protocol and procedures were approved by the Internal Review Board at Oklahoma State University to Drs. Deborah Norris and Linda Sheeran in February 2010. Please see Appendix D for the IRB approval form.

Study area

The study population included all 342 public elementary schools from small districts in Oklahoma. Small districts were defined as school districts with only one elementary school. Oklahoma public schools were selected to participate because of their leadership in the field of pre-K. Oklahoma was the second state to provide universal four-year old pre-K—that is, for all children who would like to attend. Ninety-nine percent of the districts provide this service and 153 districts provide three-year-old pre-K (National

Institute for Early Education Research [NIEER],2009).Oklahoma public school pre-K has been ranked number one among public school pre-K in the United States each year since first receiving this honor for the school year of 2003-2004 (NIEER, 2009).

Participants

Participants in the study were 63 teachers and 66 principals. The head principal from each elementary school was selected to participate in the study. Since only small districts were used, there was only one elementary school and one head principal per district. If the district did not have a principal then the district superintendent was enlisted to participate. One pre-k lead teacher from each school was selected to participate in the study. At the schools that had only one pre-K lead teacher, that teacher received the packet. If the school had more than one teacher, a teacher was randomly selected to participate and received a packet.

There were 342 small districts in Oklahoma. Of these 342 schools, 282 were sent packets. Sixty schools were not sent packets either because there was no answer or the phone was busy for each call (41), pre-k for that school was operated through a Native American Nation and the teacher did not report to the school principal or district (1), or a message was left but the call was not returned (18). Sixty-six of the principals from the schools receiving packets completed the information and responded. Sixty-three of the packets from the teachers were returned. Of the respondents, sixteen of the principals and teachers were pairs from the same schools.

Of the 63 teachers in the study, 20 (32%) teachers reported having completed an associate's degree, 58 (92%) teachers reported having completed a bachelor's degree, and

10 reported having completed a masters' or specialists' degree. There was a variety of majors for bachelor's degrees including different areas in education, business administration, communication, family studies, horticulture, communications, and criminal justice. Twenty-eight (47%) of those were in Early Childhood Education, 15 (25%) of the degrees were in Elementary Education, 10 (17%) of the degrees were reported as general education or in another area of education, 2 (3%) degrees were in communication, 1 (2%) in Human Development and Family Science, 1 (2%) in business, and 3 (5%) of the degrees were in other areas. All of the teachers reported female as their gender. Total number of years teaching ranged from one to 37 years with a mean of 12.84. Most of the teachers had experience in teaching children in Kindergarten (n=22) and pre-K (n=62). Sixty-two of the teachers reported ethnicities as follows: 51 (82%) Caucasian, 7 (11%) Native American, 3 (5%) Biracial/Multicultural, and 1 (2%) African American/Black. Teachers reported from counties ranging in population from 3,407 to 244,589 persons with a mean of 37,494.36 and a median of 32,119. Teachers' cities ranged in population from 61 to 95,694 persons with a mean of 6,038.77 and a median of 880. For complete descriptive statistics for teachers, see Table 1.

Sixty-six principals participated in the study. These principals were from cities ranging in population from 143 to 28,692 persons with a mean of 3,769.14 and a median of 859. Principals represented counties ranging in population from 2,630 to 601,961 persons with a mean of 46,775.58 and a median of 40,783. Twenty-two (33%) of the participating principals reported their gender as male and 44 (67%) as female. Of the 64 principals in this study who reported ethnicity, 49 (7%) reported Caucasian, 13 (20%) Native American, and 2 (3%) biracial or multicultural. The number of years as a principal

ranged from completing first year to 31 years with a mean of 7.84 and a median of 4.50. The principals' teaching experience ranged from zero to 32 years and with a mean of 13.40 years and a median of 13 years. Fourteen of the principals reported having taught in a preschool (infant to pre-K) classroom. Of these 14 principals, the number of years teaching in a preschool class ranged from one to 15 years with a mean of 4.21 and a median of 3 years. See Table 2 for descriptive statistics for principals.

Table 1.

Teacher Characteristics

Variable name	*n**	Minimum	Maximum	Mean	*SD*	Median
County size	61	3407	244589	37494.36	36349.13	32199
City size	61	61	95,694	6038.77	14,014.93	880
Teacher gender						
Male	0					
Female	63					
Teaching experience						
Total years Teaching	63	1	37	12.84	8.19	12.00
Preschool years taught	43	0	37	7.76	6.62	6.00
Pre-K years taught	43	0	22	6.92	5.00	6
Kindergarten taught	63	0	1			
Course background						
Child Development courses taken	63	0	42	1.94	6.01	.00
ECE courses taken	62	0	18	2.86	5.30	.00
Bachelor degree majors						
ECE major	28					
Elementary education major	15					
General education major	10					
Communication	2					

major	
Human Development and Family Science major	1
Business major	1
Other major	3
Ethnicity	
Caucasian	51
Native American	7
Biracial/Multicultural	3
African American/Black	1

Note **n*=the number of responses for each variable

Table 2.

Principal characteristics

Variable name	*n**	Minimum	Maximum	Mean	*SD*	Median
County size	65	2630	601961	46775.59	74950.30	40783.00
City size	63	143	28,692	3,769.14	6,777.91	859
Principal gender						
Male	22					
Female	44					
Professional experience						
Preschool years taught	66	0	15	.99	2.85	.00
Pre-K years taught	66	0	12	.71	2.05	.00
Kindergarten years taught	66	0	10	.85	2.07	.00
First to third years taught	65	0	13	2.67	3.85	.00
Fourth to sixth years taught	64	0	21	3.81	5.91	.00
Total years taught	64	0	32	13.40	9.56	13.00
Ethnicity						
Years as a principal	66	0	31	7.84	7.84	4.50

Caucasian	49
Native American	13
Biracial/ multicultural	2

Note **n*=the number of responses for each variable

Procedures

Upon receiving Institutional Review Board approval at Oklahoma State University, all of the schools from districts in Oklahoma with only one elementary school (small districts) in Oklahoma were called (see Appendix A). During the calls, the study was briefly described, the name of the principal was confirmed, and the names of pre-k teachers were requested. If the school had more than one pre-k teacher, then one teacher was randomly selected. After the schools had been called and a teacher selected, the surveys were mailed to the teachers and principals. Participants were asked to return their packets within three weeks of receiving the packets.

Quantitative data were collected from the participants and will be analyzed in this study. Principals were asked to complete the demographics and characteristics sheet, Developmentally Appropriate Practices Scale (Charlesworth, Hart, Burts, Thomasson, Mosley, & Fleege, 1993), and classroom time allocation preferences. Teachers were asked to complete the demographics and characteristics sheet, an adapted version of the Parental Modernity Scale (Schaefer & Edgerton, 1985), classroom practices, time allocation, classroom characteristics, and influences upon classroom time.

After receiving the teachers' and principals' returned questionnaires, the data were entered into statistic software. The data were analyzed using correlations for all hypotheses proposing bivariate relations. Multiple regression and hierarchical multiple

regression were employed in the analyses of moderators and mediators in the appropriate manner for each hypothesis. For a full list and description of analyses please see the section titled, "Data Analysis."

Measures

Study 1: Teacher characteristics, beliefs, and classroom practices

Teacher measures.

Measures selected for the teachers included DAP beliefs measure, Parental Modernity Scale, teacher demographics and characteristics, classroom practices, learning experiences, time allocation, and classroom characteristics. DAP beliefs measure, classroom practices, learning experiences, and time allocation were all standardized by subtracting the mean from each individual score and dividing by the standard deviation, yielding a z score.

Determining acceptable measures

Prior to conducting descriptive and inferential statistical analyses, reliability analyses were conducted for all teacher measures. Teacher measures with an alpha of .50 or higher were used in further analyses. The minimal acceptability for alpha was guided by Cortina (1993) who, in his description of alpha, argued that alpha can vary based upon the number of items and dimensions present. Therefore the minimal alpha for a measure is determined by the set standard of .70 but may be adjusted from that due to the number of items (fewer items often results in lower alpha scores) or dimensions included in the

measure (more dimensions results in a decreased alpha; Cortina, 1993). Teacher measures and Cronbach's alphas can be found in Table 3.

Table 3.

Teacher measures used and alphas

Measure	Cronbach's alpha	Number of items	Mean	*SD*	Scale and theoretical range	Actual range
Teacher beliefs about DAP	.73	15	.00	.46	Likert ranging from 1 to 5	-2.02 to .89
Belief in the importance of obedience	.64	3	3.07	.93	Likert ranging from 1 to 5	1.33 to 5.00
Classroom DAP activities	.78	15	.00	.47	Likert ranging from 0 to 6 and 1 to 6	-1.73 to 1.33
Classroom scripted teaching	.72	2	.00	.89	Likert ranging from 0 to 6	-.94 to 2.08
Classroom DIP activities	.51	6	.00	.54	Likert ranging from 0 to 6 and 1 to 6	-.94 to 1.19

In addition to evaluating alpha for composite variables, dichotomous variables and variables of teaching experience were checked. Any variable that did not have a yes to no (or no to yes) response ratio of 1:3 (or more evenly distributed) was eliminated. The same guideline was used for years' teaching experience. Please see Table 4.

Table 4.

Response ratios for teacher dichotomous variables

Item	Ratio	
Associates Degree Field	17:46	Used
Masters Degree	10:53	Not used
Special Education Certification from a college teaching program	2:61	Not used
Taught kindergarten	22:40	Used
Taught Pre-K	62:0	Not used

Beliefs in developmentally appropriate practices

Developmentally appropriate practices of teachers were measured using items developed by Drs. Deborah Norris and Barbara Sorrels from Miller and Almon (2009). The measure asked teachers to indicate how much they believe a list of items influence their classroom teaching. The items were rated on a Likert scale that ranged from 1 to 5 with 1 being "strongly disagree" and 5 being "strongly agree." The list included items such as, "developmental and/or educational theories," "research findings about classroom teaching," "needs of the children," and "income level of children's families."

Other questions used for DAP were rated on the same five-point Likert scale and evaluated teachers' opinions about classroom learning environments. Some items were; "playful learning in early childhood classrooms is important to children's early learning," and "children need a classroom that encourages creativity in play, art, writing, and other forms of expression." The procedure for computing teacher classroom practices scores was as follows: First, Z scores were calculated for each item. Second, the mean of the 15

items, allowing for 10% (two) missing items per participant. For a complete list of items comprising the measure please see Table 5. None of the items were reverse coded. Cronbach's alpha was used to test the reliability of the measure and was high enough (α=.73) to use in the study.

Table 5.

Teacher DAP measure

Item	Theoretical Range	Item mean (range)
Please indicate how much you believe the following influence your classroom teaching.		
Developmental and/or educational theories	1-strongly disagree 2-disagree 3-neutral 4-agree 5-strongly agree	3.73 (1-5)
Community expectations	1-strongly disagree 2-disagree 3-neutral 4-agree 5-strongly agree	2.06 (1-4)
Income level of children's families	1-strongly disagree 2-disagree 3-neutral 4-agree 5-strongly agree	2.60 (1-5)
Needs of the children	1-strongly disagree 2-disagree 3-neutral 4-agree 5-strongly agree	4.83 (4-5)
Research findings about classroom teaching	1-strongly disagree 2-disagree 3-neutral 4-agree 5-strongly agree	3.63 (1-5)

We would like to know your opinions about classroom learning environments.
In my opinion…

When children misbehave, I view it as an opportunity to teach important social/emotional skills.	1-strongly disagree 2-disagree 3-not sure 4-agree 5-strongly agree	4.56 (2-5)
A sense of emotional safety is crucial to the learning environment.	1-strongly disagree 2-disagree 3-not sure 4-agree 5-strongly agree	4.81 (2-5)
The emotional climate of the classroom highly influences learning and cannot be ignored.	1-strongly disagree 2-disagree 3-not sure 4-agree 5-strongly agree	4.84 (2-5)
Learning to recognize and empathize with the emotional states of others is an important goal in the early learning environment.	1-strongly disagree 2-disagree 3-not sure 4-agree 5-strongly agree	4.65 (3-5)
Helping children develop self regulation is an important goal of the learning environment.	1-strongly disagree 2-disagree 3-not sure 4-agree 5-strongly agree	4.78 (4-5)
Creating environments that nurture and support children's curiosity is an important part of the learning environment.	1-strongly disagree 2-disagree 3-not sure 4-agree 5-strongly agree	4.94 (4-5)
Playful learning in early childhood classrooms is important to children's early learning	1-strongly disagree 2-disagree 3-not sure 4-agree 5-strongly agree	4.95 (4-5)

Teaching children social skills such as turn taking, sharing, and cooperating is an important part of the classroom curriculum.	1-strongly disagree 2-disagree 3-not sure 4-agree 5-strongly agree	4.97 (4-5)
Helping children identify and manage personal feelings is an important goal of the curriculum	1-strongly disagree 2-disagree 3-not sure 4-agree 5-strongly agree	4.84 (3-5)
Children need a classroom that encourages creativity in play, art, writing, and other forms of expression.	1-strongly disagree 2-disagree 3-not sure 4-agree 5-strongly agree	4.95 (4-5)

Belief in the importance of obedience

In addition to the DAP practices measure, another measure was constructed to measure teachers' belief in the importance of children's obedience. This was done by using three items from a measure developed to measure parental modernity (Parental Modernity Scale, PMS; Schaefer & Edgerton, 1985). PMS is commonly used in Head Start centers in order to assess the attitudes of caregivers towards children and childrearing practices. The child rearing practices assessed with the PMS are traditional attitudes and progressive attitudes. This measure has been used in the NICHD studies of Head Start as well as for Head Start assessments (Administration for Children and Families [ACF] Office of Planning, Research, and Evaluation [OPRE], 2010).

There are 30 Likert-scaled items on the PMS; 12 comprising progressive beliefs and 22 comprising traditional beliefs. Fourteen of the items (10 traditional items and four

progressive items) were eliminated from this study because they pertained to parents rather than teachers and principals. Two new items were created. These two new items represent traditional attitudes and are: “In my opinion disruptive children are typically rebellious and self-centered” and “In my opinion children’s strong emotions get in the way of real learning.”

Of the 18 items used, three were used to comprise the measure called “belief in the importance of obedience.” The three items were “children should always obey the teacher,” “the most important thing to teach children is absolute obedience to whoever is in authority,” and “the most important thing to teach children is absolute obedience to parents.” PMS uses a 5-point Likert scale, ranging from 1 to 5 with 1 being “strongly disagree” and 5 being “strongly agree.” For the list of items used to calculate belief in the importance of obedience, please see Table 6. The measure was calculated by computing the mean allowing for no missing items. None of the items were reverse coded. Reliability was calculated by using Cronbach’s alpha and was acceptable (α=.638).

Table 6.

Beliefs in the importance of obedience

Item	Theoretical Range	Item range (mean)
We would like to know your beliefs about what makes children successful students in school. Please check the column that indicates how strongly you personally agree with the following statement.		
Children should always obey the teacher.	1-strongly disagree 2-mildly disagree	4.27 (1-5)

	3-not sure 4-mildly agree 5-strongly agree	
The most important thing to teach children is absolute obedience to whoever is in authority.	1-strongly disagree 2-mildly disagree 3-not sure 4-mildly agree 5-strongly agree	2.22 (1-5)
The most important thing to teach children is absolute obedience to parents.	1-strongly disagree 2-mildly disagree 3-not sure 4-mildly agree 5-strongly agree	2.73 (1-5)

Teacher demographics and characteristics

Teacher demographics and characteristics were collected for classification and prediction purposes. The demographics collected included: age, gender, marital status and ethnicity. Teacher characteristics included educational background (associate's, bachelor's, master's, or doctoral degree), number of courses in child development and early childhood education, area of study in school, certification information, and teaching experience (see Appendix C). Items listed as grade "taught" were dichotomous variables with yes/no answers. For dichotomized characteristics, 0 was no and 1 was yes. Years having taught and number of courses taken were fill-in-the-blank questions for which teachers could fill in the number for that item.

Classroom practices

The survey used to gather classroom practices information was developed by Drs. Deborah Norris and Barbara Sorrels. The items were developed from the information provided in *Crisis in the Kindergarten* (Miller & Almon, 2009). Classroom practices as defined in this study include any information pertaining to time allocation and materials provided for the children's use.

To assess allocation of time, teachers indicated the number of minutes per day that the class spends in different activities. The options were: whole group instruction, small group instruction, individual instruction, interest centers or "choice time," outdoor play, opening activities, circle time, scripted or packaged literacy curriculum, scripted or packaged math curriculum, instructional materials, preparation and administration of standardized tests, and child-initiated play. The frequency of other opportunities in the classroom was assessed using a 6-point Likert-type scale with the options being "Never" (0), "Occasionally" (1), "Monthly" (2), "Biweekly" (3), "Weekly" (4), and "Daily" (5). Teachers were asked to indicate how often each of the listed learning experiences occurs in the classroom. These experiences include dramatic play, block play, sensory play, science activities, computer activities, music and creative movement, board games involving counting, and standardized test preparation.

Scores for the items were standardized by calculating z scores. After standardization, the z scores were used to calculate a mean score for each participant allowing for one missing items for DAP, one items for DIP, and none for scripted teaching. If fewer than the allotted items were answered by a participant then a mean was

not calculated due to too many missing items. Fifteen items were used to create the DAP classroom practices variable; none of the items was reverse coded. For a full list of items used for this measure, see Table 7. Six items were used to create DIP activities. Table 8 lists all of these items; none of the items was reverse coded. Two items were used to create scripted teaching. These are listed in Table 9; neither of the items were reverse coded. Reliability of the classroom practices measures were tested using Cronbach's alpha. Reliabilities for the classroom practices were as follows: DAP activities (α=.78), DIP activities (α=.51), and scripted teaching (α=.72). The DIP activities reliability was low but was included for exploratory purposes.

Table 7.

Classroom time allocated to DAP activities

Item	Theoretical Range	Item mean (range)
Estimate the amount of time spent on a daily basis in the following activities:		
Individual Instruction	0-None 1-1 to 15 minutes 2-16 to 30 minutes 3-31 to 45 minutes 4-46 to 60 minutes 5-61 to 75 minutes 6-76 to 90 minutes	2.48 (1-5)
"Choice Time"	0-None 1-1 to 15 minutes 2-16 to 30 minutes 3-31 to 45 minutes 4-46 to 60 minutes 5-61 to 75 minutes 6-76 to 90 minutes	4.19 (2-7)
Outdoor Play	0-None 1-1 to 15 minutes	4.04 (2-6)

	2-16 to 30 minutes 3-31 to 45 minutes 4-46 to 60 minutes 5-61 to 75 minutes 6-76 to 90 minutes	
Child-initiated play	0-None 1-1 to 15 minutes 2-16 to 30 minutes 3-31 to 45 minutes 4-46 to 60 minutes 5-61 to 75 minutes 6-76 to 90 minutes	3.84 (2-7)
How often do these occur?		
Dramatic play	1-never 2-occasionally 3-monthly 4-biweekly 5-weekly 6-daily	5.52 (2-7)
Legos, tinker toys, bristle blocks or other open-ended materials	1-never 2-occasionally 3-monthly 4-biweekly 5-weekly 6-daily	5.78 (2-7)
Block play	1-never 2-occasionally 3-monthly 4-biweekly 5-weekly 6-daily	5.79 (2-7)
Sensory play, i.e. water, beans, sand	1-never 2-occasionally 3-monthly 4-biweekly	4.56 (1-7)

	5-weekly 6-daily	
Open-ended art experiences	1-never 2-occasionally 3-monthly 4-biweekly 5-weekly 6-daily	4.61 (2-6)
Math manipulatives	1-never 2-occasionally 3-monthly 4-biweekly 5-weekly 6-daily	5.57 (2-7)
Science activities	1-never 2-occasionally 3-monthly 4-biweekly 5-weekly 6-daily	4.41 (2-6)
Computer activities	1-never 2-occasionally 3-monthly 4-biweekly 5-weekly 6-daily	4.69 (1-7)
Opportunities to write and use invented spelling	1-never 2-occasionally 3-monthly 4-biweekly 5-weekly 6-daily	5.24 (1-7)
Music and creative movement	1-never 2-occasionally	5.70 (2-7)

	3-monthly 4-biweekly 5-weekly 6-daily	
Board games involving counting	1-never 2-occasionally 3-monthly 4-biweekly 5-weekly 6-daily	4.14 (1-7)

Table 8.

Classroom time allocated to DIP activities

Item	Theoretical Range	Item mean (range)
Estimate the amount of time spent on a daily basis in the following activities:		T…
Scripted or packaged literacy curriculum	0-None 1-1 to 15 minutes 2-16 to 30 minutes 3-31 to 45 minutes 4-46 to 60 minutes 5-61 to 75 minutes 6-76 to 90 minutes	2.32 (1-7)
Scripted or packaged math curriculum	0-None 1-1 to 15 minutes 2-16 to 30 minutes 3-31 to 45 minutes 4-46 to 60 minutes 5-61 to 75 minutes 6-76 to 90 minutes	1.87 (1-4)
Instructional materials such as workbook, worksheets and flash cards	0-None 1-1 to 15 minutes 2-16 to 30 minutes 3-31 to 45 minutes 4-46 to 60 minutes	2.49 (1-5)

	5-61 to 75 minutes 6-76 to 90 minutes	
Preparation and administration of standardized tests	0-None 1-1 to 15 minutes 2-16 to 30 minutes 3-31 to 45 minutes 4-46 to 60 minutes 5-61 to 75 minutes 6-76 to 90 minutes	1.31 (1-7)
How often do these occur?		
Instructional materials such as workbooks and worksheets	1-never 2-occasionally 3-monthly 4-biweekly 5-weekly 6-daily	5.03 (1-7)
Standardized testing and test preparation	1-never 2-occasionally 3-monthly 4-biweekly 5-weekly 6-daily	1.71 (1-6)

Classroom characteristics.

Characteristics about the class were included in the section titled, "Please tell us about your pre-k class—." The classroom characteristics were: 1) whether the class was half day or full day, 2) the number of children in the class, 3) how many children of each gender, 4) the number of children who have an IFSP or IEP, 5) the number of children who have been recommended for testing for special needs of developmental delays, and 6) the number of children who will be ready for kindergarten in the fall. Each question was open-ended and did not include a scale. For descriptive information about the classrooms see Table 10.

Table 9.

Classroom time allocated to scripted teaching

Item	Theoretical Range	Item mean (range)
Estimate the amount of time spent on a daily basis in the following activities:		
Scripted or packaged literacy curriculum	0-None 1-1 to 15 minutes 2-16 to 30 minutes 3-31 to 45 minutes 4-46 to 60 minutes 5-61 to 75 minutes 6-76 to 90 minutes	2.32 (1-7)
Scripted or packaged math curriculum	0-None 1-1 to 15 minutes 2-16 to 30 minutes 3-31 to 45 minutes 4-46 to 60 minutes 5-61 to 75 minutes 6-76 to 90 minutes	1.87 (1-4)

Table 10.

Classroom and school schedule descriptive information

	*n**	Minimum	Maximum	Mean	SD	Median
Class size	62	5	37	17.323	5.288	17
Male students	62	1	20	8.290	3.236	8
Female students	62	2	17	9.032	3.051	9
Number of children on an IEP or IFSP	62	0	8	1.919	1.902	2
Total specials	63	0	795	227.361	183.599	225
Total interruptions for specials	61	0	49	9.387	9.257	6.5

Note **n*=the number of responses for each variable

School schedule

Information about school schedule was collected from two sections in the packet. Classroom practices were included in a section where the teacher was asked to provide information about specials in which the children participate, times per week, session length, and the amount of transition time required to get to these special classes. The activities were music, physical education, computers, counselor teaching, library, art, and foreign language. Two scores were calculated from this information: 1) number of total interruptions and 2) total time spent in specials. The total number of interruptions was calculated by summing the number of times in a week when the class is led by a professional other than the classroom teacher in an activity. Total time spent in specials was calculated by multiplying the number of times per week and the session length for each "special" and then summing the time spent in each special activity each week. For descriptive statistics see Table 10.

Study 2: Principal characteristics, beliefs, and preferred classroom practices

Principal measures.

Information about the principals was collected using three measures: Developmentally Appropriate Practices (DAP), a measure to determine what should influence classroom practices and how classroom time should be spent, and a demographics and characteristics sheet. All of the measures were included in one packet for the principal to complete.

Determining acceptable measures

Prior to conducting further analyses, tests for Cronbach's alpha were conducted on principal measures. Principal measures with an alpha of .50 and higher were used in the study. Principal measures with an alpha lower than this were eliminated from the study. This alpha level was determined using Cortina's guidelines (1993) who posed that the acceptable alpha level for a measure must be determined by the number of items and dimensions comprising the measure and theory. Alphas for the measures used in this study are listed in Table 11.

Table 11.

Principal measures used and alphas

Measure	Cronbach's alpha	Number of items	Mean	*SD*	Scale and theoretical range	Actual range
DAP beliefs	.87	12	3.94	0.59	1-5	3-5
Beliefs about classroom time allocated to DAP activities	.75	7	5.38	.55	1-6	3.43-6
Beliefs about classroom time allocated to DIP activities	.49	2	3.28	1.24	1-6	3-6

For the dichotomous variables and variables requiring responses of years taught, a ratio of 1:3 was required for use. The 1:3 guideline was also used for years of teaching experience. The ratio for years teaching was determined using people having taught one

or more years in that age of classroom to number of people who had taught less than one year in that age group. Several items were eliminated as a result of using this guideline. For a list of ratios for the items with significant correlations please see Table 12.

Table 12.

Response ratios for principal variables

Item	Ratio	Year responses	Use or Not
Completed Masters degree	60:6		Not used
Early childhood: Alternative certification	3:63		Not used
Early childhood: Completed college teacher education program	10:56		Not used
Early childhood: Passed state subject area teaching exams	17:49		Used
Elementary: Alternative certification	2:62		Not used
Elementary: Completed college teacher education program	41:25		Used
Elementary: Passed state subject area teaching exams	26:40		Used
Special education: Completed college teacher education program	9:57		Not used

Item	Ratio	Year responses	Use or Not
Special education: Passed state subject area teaching exam	7:59		Not used
Taught first to third grades	37:29		Used
Years teaching fourth to sixth grades		38 none, 26 one or more years	Used
Taught infants/toddlers	2:64		Not used
Taught pre-K	13:53		Not used
Taught three-year olds	6:60		Not used
Taught two-year olds	3:63		Not used
Years teaching birth through pre-K		52 none, 14 one or more years	Used
Years teaching infants/toddlers		64 none: 2 one or more years	Not used
Years teaching two-year olds		63 none, 3 one or more years	Not used

Developmentally Appropriate Practices Scale

Principal beliefs regarding DAP in the classroom were assessed using an adaptation of the Developmentally Appropriate Practices Scale (DAPS) developed by Charlesworth, et al. (1993). This measure was selected because it is an established measure for determining beliefs regarding DAP for children in kindergarten and pre-kindergarten programs. The measure was determined to be consistent with findings about classroom practices by comparing the composite score from the belief factor,

Developmentally Inappropriate Activities and Materials (DIAM; Charlesworth, et al., 1993), with observations of twenty kindergarten classrooms. The study showed that teachers who used more DIP rather than DAP practices had a higher score on DIAM and a lower DAPS score (Charlesworth, et al., 1993). For a full list of these items, please see Table 13. First, the mean for the measure was calculated from the z scores of each item, allowing for one missing variable per participant. No items were reverse coded. Cronbach's alpha was calculated for this scale and was acceptable (α=.906).

Principal beliefs about testing

Items comprising the scale for principals' beliefs about testing attitudes were gathered by asking the principals to "Please indicate how much you believe the following influence a teacher's classroom teaching." Principals were asked to rate, using a five-point Likert scale ranging from "strongly disagree" to "strongly agree," how much he/she believed each item influenced a teacher's teaching. The list included testing items were "State learning standards [PASS]" and "expectations associated with NCLB". The testing items were used as single items in the data analyses.

Table 13.

Principals Developmentally Appropriate Practices Scale

Item	Theoretical Range	Item mean (Range)
In my opinion…		
It is_____for pre/k activities to be responsive to the individual differences in interests.	1-not important at all 2-not very important 3-fairly important 4-very important 5-extremely important	3.97 (2-5)

It is _____ for pre/k activities to be responsive to individual differences in development.	1-not important at all 2-not very important 3-fairly important 4-very important 5-extremely important	4.23 (3-5)
It is _____ for young children to learn through active exploration.	1-not important at all 2-not very important 3-fairly important 4-very important 5-extremely important	4.41 (3-5)
It is _____ for the teacher to move among groups and individuals, offering suggestions, asking questions, and helping children get involved with materials and activities.	1-not important at all 2-not very important 3-fairly important 4-very important 5-extremely important	4.42 (2-5)
It is _____ for preschool children to dictate stories to the teacher.	1-not important at all 2-not very important 3-fairly important 4-very important 5-extremely important	3.45 (2-5)
It is _____ for children to see and use functional print (telephone books, magazines, etc.) and environmental print (cereal boxes, cookie packages, etc.) in the pre/k classroom.	1-not important at all 2-not very important 3-fairly important 4-very important 5-extremely important	3.70 (2-5)
It is _____for children to participate in dramatic play.	1-not important at all 2-not very important 3-fairly important 4-very important 5-extremely	3.86 (2-5)

	important	
It is _____ for children to talk informally with adults.	1-not important at all 2-not very important 3-fairly important 4-very important 5-extremely important	4.00 (3-5)
It is _____ for children to experiment with writing by inventing their own spelling.	1-not important at all 2-not very important 3-fairly important 4-very important 5-extremely important	3.28 (1-5)
It is _____ to provide many opportunities to develop social skills with peers in the classroom.	1-not important at all 2-not very important 3-fairly important 4-very important 5-extremely important	4.49 (3-5)
In the prek/k program, it is that math be integrated with all other curriculum areas.	1-not important at all 2-not very important 3-fairly important 4-very important 5-extremely important	3.73 (2-5)
In the classroom setting, it is _____ for the child to be exposed to multicultural and nonsexist activities.	1-not important at all 2-not very important 3-fairly important 4-very important 5-extremely important	3.68 (1-5)

Principal beliefs about classroom practices

Principals' preferences for how teachers' classroom time should be spent on classroom practices were collected using a ten-item measure. Principals were asked to rate "how often should the following activities take place in a pre-K classroom?" on a Likert scale ranging from "Never" to "Daily." Two scores were calculated from this measure: 1) DAP time and 2) DIP time. DAP time included items such as "dramatic play," "block play," and "sensory play." DIP time included "use of workbooks, worksheets" and "preparing for/taking standardized tests." None of the items were reverse coded. alpha was calculated to determine reliability. Reliability was acceptable for DAP time (DAP α=.74) but was too low for DIP time (α=.49). For a full list of DAP time items please see Table 14. Because DIP time consisted of only two items, correlations were conducted with each of the items individually rather than the measure. The two items are workbooks/worksheets and standardized tests.

Table 14.

Principal beliefs about DAP classroom practices

Item	Theoretical Range	Item mean (range)
In your opinion, how often should the following activities take place in a prek classroom?		
Dramatic play	1-never 2-occassionally 3-monthly 4-biweekly 5-weekly 6-daily	4.67 (1-6)

Block play	1-never 2-occassionally 3-monthly 4-biweekly 5-weekly 6-daily	5.25 (2-6)
Science activities	1-never 2-occassionally 3-monthly 4-biweekly 5-weekly 6-daily	5.02 (2-6)
Sensory play, i.e. water, beans, sand	1-never 2-occassionally 3-monthly 4-biweekly 5-weekly 6-daily	5.41 (2-6)
Art activities	1-never 2-occassionally 3-monthly 4-biweekly 5-weekly 6-daily	5.48 (4-6)
Child-initiated play	1-never 2-occassionally 3-monthly 4-biweekly 5-weekly 6-daily	5.78 (4-6)
Outdoor play	1-never 2-occassionally 3-monthly 4-biweekly 5-weekly 6-daily	5.97 (5-6)

Use of story books	1-never 2-occassionally 3-monthly 4-biweekly 5-weekly 6-daily	5.86 (5-6)

Principal demographics and characteristics

Demographic data were collected from the principals for classification purposes and to be used as predictors. The information collected included age, gender, ethnicity, educational background (bachelor's, master's, or doctoral degree), college courses in child development and early childhood education, and certificates held (i.e., early childhood, early elementary, special education, method of completing certification, years of teaching and grade taught, and administrative experience). All items stating "grade taught" were yes/no dichotomous variables. All items for years of teaching grades and for courses taken were open-ended and the respondents were able to list the number of years or number of courses. For characteristics that are dichotomous, 0 represents "no" and 1 represents "yes."

Data analysis

Data were analyzed using three primary methods: correlations for all analyses of bivariate relations, hierarchical regression for all analyses testing for moderators, and hierarchical regressions in all analyses testing for mediators. These are explained in further detail as they pertain to each set of hypotheses.

Study 1: Teachers' characteristics, beliefs, and classroom practices

Hypothesis set one pertains to teachers' characteristics and teachers' DAP beliefs. These relations were assessed by Pearson's product-moment correlation coefficients. A set of correlations was conducted for teachers' beliefs about DAP with teachers' number of years teaching, certification type, courses taken, and field of study.

Hypothesis set two proposes relations of the exosystem (teachers' characteristics) to the individual level (classroom practices). These hypotheses were analyzed with correlations. This set of corrections included teachers' characteristics (teacher education area, years of teaching experience, courses taken, and type of certification) with DAP and DIP activities and scripted teaching.

Hypothesis set four proposes that microsystems are related to classroom practices and was tested by correlations between individual teachers' DAP beliefs or school schedule and classroom practices. The first set of correlations was calculated between teachers' beliefs (DAP) with total time allocated to classroom practices (DAP and DIP activities and scripted teaching). A second set of correlations was conducted for school schedule (specials) and time allocated to different classroom practices (DAP and DIP activities and scripted teaching).

Prior to testing hypothesis sets five and six, each of the classroom covariates (class size and number of children on an IEP or IFSP) were correlated with classroom practices (time spent in DAP activities, DIP activities, and scripted teaching). Any significant correlation indicated a covariate to be controlled in the mediation and moderation analyses.

Hypothesis set five was analyzed by hierarchical regressions testing moderators. For this set of hypotheses, the method as outlined in Holmbeck's (2002) article was used. This method utilizes regressions testing main effects and interaction effects as well as post-hoc probing of significant interaction (moderator) effects. The first step in this method is to center the predictors and moderators, enter the predictors and moderators in the first block, and then enter the interaction term(s). For example, in hypothesis 4a (the relations of teachers' beliefs about developmentally appropriate practices [TBDAP] to time allocated to activities [TAA] are moderated by school schedule [SCHSCH]) the two main effects [TBDAP, SCHSCH] and one two- way interaction, TBDAP x SCHSCH, were tested. For any significant interaction effect, the next step is to create two new conditional moderator variables. Once the new moderator variables have been created, new interactions are tested for the new variables with the predictor variable.

Hypothesis set six used Holmbeck's test for mediation effects (Holmbeck, 2002). Testing for mediation requires a significant regression coefficient for the relation between the predictor variable and the outcome variable, another between the predictor variable and the mediator variable, and a third between the mediator variable and the outcome variable.

Study 2: Principal characteristics, beliefs, and preferred classroom practices

Hypothesis set one pertains to the exosystem and the microsystem. These systems include principals' characteristics and principals' beliefs and the relations were assessed by Pearson's product-moment correlation coefficients. The set of correlations was conducted for principals' beliefs about DAP and testing as related to principals'

characteristics (number of courses in early childhood education and child development, teaching experience, certifications held, degree area, and years as a principal).

Hypothesis set two proposes relations of principals' characteristics to principals' preferred classroom practices. These hypotheses were analyzed using a set of correlations that included principals' characteristics (teaching experience, years as principal, degree area, certifications held, child development and early childhood education classes taken, and teaching experience area) with principals' preferences for teachers' classroom practices (time allocated to DAP and DIP activities and scripted teaching).

Hypothesis set three proposes that principal's beliefs about classroom practices are related to principals' preferences for teachers' classroom practices. These hypotheses were tested using a set of correlations calculated between principals' beliefs (DAP and testing attitudes) and principals' preferences for teachers' classroom practices (time allocated to DAP and DIP activities and scripted teaching).

Hypothesis set four was tested using Holmbeck's test for mediation effects (Holmbeck, 2002). Regressions yielded both unstandardized and standardized coefficients and standard errors for the coefficients. This allowed the use of standardized coefficients in visual models and the use of unstandardized coefficients in the computation of the standard error of the indirect effect with Sobel's equation (Baron & Kenny, 1986; Holmbeck 2002, p. 93): $se_{\text{indirect effect}} = [(b_{yx}^2)(se_{zy,x}^2) + (b_{zy,x}^2)(se_{yx}^2)]^{1/2}$. The next step was to calculate z for mediation using the following equation: $z = b_{\text{indirect effect}} / se_{\text{indirect effect}}$. After z was calculated, the significance of the mediator was evaluated using tabled values for z. These methods were used to test principals' DAP beliefs as a

mediator between principals' characteristics and principals' preferred classroom practices.

CHAPTER IV

RESULTS

Study 1: Teacher beliefs, teacher characteristics and classroom practices

Teacher characteristics and teacher beliefs

Before analyses were conducted, teacher characteristics were coded. Having taught any particular age group was a dichotomous "yes" (=1) or "no" (=0) variable. Teacher certifications either through graduating from a college program or having passed the state subject area were dichotomous "yes" (=1) or "no" (=0) variables.

Correlations of teacher degree area, teacher highest level of degree earned, and teacher years of teaching with teacher beliefs about DAP and the authoritarian belief "belief in the importance of obedience" were conducted. There was a significant correlation between the number of years teaching in a pre-K classroom and teachers' beliefs in DAP (r=.30, p=.05). The number of courses taken in child development was significantly negatively correlated with teachers' DAP beliefs (r=-.29, p=.02). The number of courses in child development was also significantly correlated with teachers' beliefs in the importance of obedience (r=.29, p=.02). See Table 15 for these correlations.

Table 15.

Correlations of teacher characteristics and teacher beliefs

	Total years taught	Preschool years taught	Pre-K years taught	CD Courses	Teacher DAP beliefs	Belief in the importance of obedience
Total years taught	1					
Preschool years taught	.44**	1				
Pre-K years taught	.50***	.83***	1			
CD Courses	.10	.12	-.06	1		
Teacher DAP beliefs	.16	.07	.30*	-.29*	1	
Belief in the Importance of Obedience	.06	.06	.14	.29*	-.06	1
M	12.84	7.71	6.92	1.94	.00	3.07
SD	8.19	7.40	5.00	6.01	.46	.93

*$p \leq .05$. **$p \leq .01$. ***$p \leq .001$

Teacher characteristics and classroom practices

Correlations between teacher characteristics (teaching experience, degrees obtained, courses taken, and certifications held) and classroom practices (DAP activities, DIP activities, and scripted teaching) were conducted. Significant correlations between teachers' characteristics and classroom practices were identified for teachers having kindergarten teaching experience and DAP classroom practices (r=-.44, p=.00) and years of experience teaching kindergarten and DAP classroom practices (r=-.30, p=.03). No significant correlations were present between teacher certifications and classroom practices. For correlations between teacher characteristics and classroom practices, please see Table 16.

Classroom descriptions

All of the classrooms were in public schools in the same Midwestern state. These classrooms varied in size and structure. Fifty-five (87%) of the classes were full-day pre-k programs and seven (11%) of the teachers taught half-day pre-k classes. The number of boys in the classes ranged from one boy to 20 boys with most of the classes having between six to 11 male students. The number of girl in the classrooms ranged from two to 17 female students with most of the classes having between six and eleven girls). Total class sizes varied between schools. The size of the classes ranged from five students to 37 students with the mean being 17.32 and both the mode and the median being 17 students. For complete class descriptive see Table 10.

Teacher beliefs and classroom practices

Correlations were conducted between teacher beliefs about DAP and the importance of obedience to DAP and DIP classroom practices and scripted teaching. Teachers' beliefs about the importance of obedience were significantly positively correlated with DIP classroom practices (r=.48, p=.00) and with scripted teaching (r=.25, p=.05). There were no significant correlations between teacher DAP beliefs and classroom practices contrary to what was hypothesized. Table 17 contains all of these correlations.

Table 16.

Correlation for teacher characteristics and classroom practices

	1	2	3	4	5	6	7	8	9
1.Total years taught	1								
2.Preschool years taught	.44**	1							
3.Pre-K years taught	.50***	.83***	1						
4.Kindergarten taught	.24	-.22	-.24	1					
5.Kindergarten years taught	.45***	-.13	-.14	.62***	1				
6.CD Courses	.10	.12	-.06	-.09	-.13	1			
7.DAP classroom practice	-.01	.24	.20	-.44***	-.30*	.01	1		
8.DIP classroom practices	.02	-.07	-.03	.13	.07	.17	.05	1	
9.Scripted teaching	.17	-.02	.01	.13	.11	.09	.00	.67***	1
M	12.84	7.71	6.92	1.65	1.45	1.94	.00	.01	.00
SD	8.19	7.40	5.00	.48	3.96	6.01	.47	.54	.89

*$p \leq .05$. **$p \leq .01$. ***$p \leq .001$

Means and standard deviations are omitted for nominal data (e.g., education area).

Table 17.

Teacher beliefs and classroom practices

	DAP beliefs	Belief in importance of obedience	DAP classroom practices	DIP classroom practices	Scripted teaching
DAP beliefs	1				
Belief in importance of Obedience	-.06	1			
DAP classroom practices	.06	-.08	1		
DIP classroom practices	-.02	.48***	.05	1	
Scripted teaching	.08	.25*	.00	.67***	1
M	.00	3.07	.00	.01	.00
SD	.46	.93	.47	.54	.89

*$p \leq .05$. **$p \leq .01$. ***$p \leq .001$

Moderators

Correlations of possible classroom covariates (class size and number of children on an IEP or IFSP) were not significant with classroom practices (time spent in DAP activities, DIP activities, and scripted teaching). Therefore, these covariates were not controlled in the analyses of moderators and mediators.

There were not any significant correlations between school schedule, teacher DAP, and teacher classroom practices. Because of the lack of links between teacher DAP beliefs and DAP or DIP classroom practices, it was hypothesized that there was a moderator present masking these relations. The procedures outlined by Baron and Kenny (1986) and Holmbeck (2002) were used to probe for moderators between teacher's beliefs about DAP and classroom practices. The moderators tested were county size, belief in the importance of obedience, class size, and the number of boys and girls in the classroom. After probing, class size and proportion of gender in the classroom were not significant moderators in this study. However, both belief in the importance of obedience and county size were significant.

Tests of moderation were conducted by, first, dichotomizing the moderator variable. For the moderator, belief in the importance of obedience, teachers who had an average score of 3 (mildly agree), 4 (agree), or 5 (strongly agree) were classified as agreeing that obedience was important (=1) and all other teachers were classified as not agreeing that obedience was important (=0). County size was dichotomized into two groups, large counties versus small counties based on the county population. Counties with a population of greater than or equal to 40,000 were classified as large counties (=1) and counties with a population of less than 40,000 were classified as small counties (=0). Classes were dichotomized based on the number of boys in the class. Classes with six or more boys were classified as many boys (=1) and classes with fewer than six boys in the class were classified as few boys (=0). Classes were also dichotomized by the number of girls in the class. The classes with eight or more girls were classified as many girls (=1) and classes with fewer than nine girls were classified as few girls (=0). Teacher beliefs in

DAP, the predictor, was not centered because it had already been standardized (mean = 0). Then, the interactions were calculated by multiplying each participant's beliefs in DAP score by that participant's dichotomized moderators (belief in the importance of obedience, county size, class size, and number of boys and girls). Hierarchical regressions were then conducted for each moderation model with the moderator and teacher beliefs in DAP entered in block one and the interaction entered in block two. Of the four interactions tested, belief in the importance of obedience (ΔR^2= .11, $F_{(1,59)}$ =7.23, p =.01) and county size (ΔR^2= .07, $F_{(1,59)}$ =4.19, p =.05) were significant moderators of the relation between teacher DAP beliefs and practices, but proportion of boys (ΔR^2= .02, $F_{(1,59)}$ =1.03, p =.31) and girls (Δ ΔR^2= .04, $F_{(1,59)}$ =2.46, p =.12) in the classroom were not.

Post hoc analyses for significant moderators were then conducted (Holmbeck, 2002). Regression equations for the variables, high belief in the importance of obedience and low belief in the importance of obedience, were created by conducting two simultaneous regressions, one each for high and low belief in obedience. The slope for DAP beliefs (b=.-.51) for the equation for high beliefs in the importance of obedience was significant t=.-2.384, p = .020. For the equation evaluating low beliefs in the importance of obedience, the slope (b=.36) was significant t=2.37, p=.02.

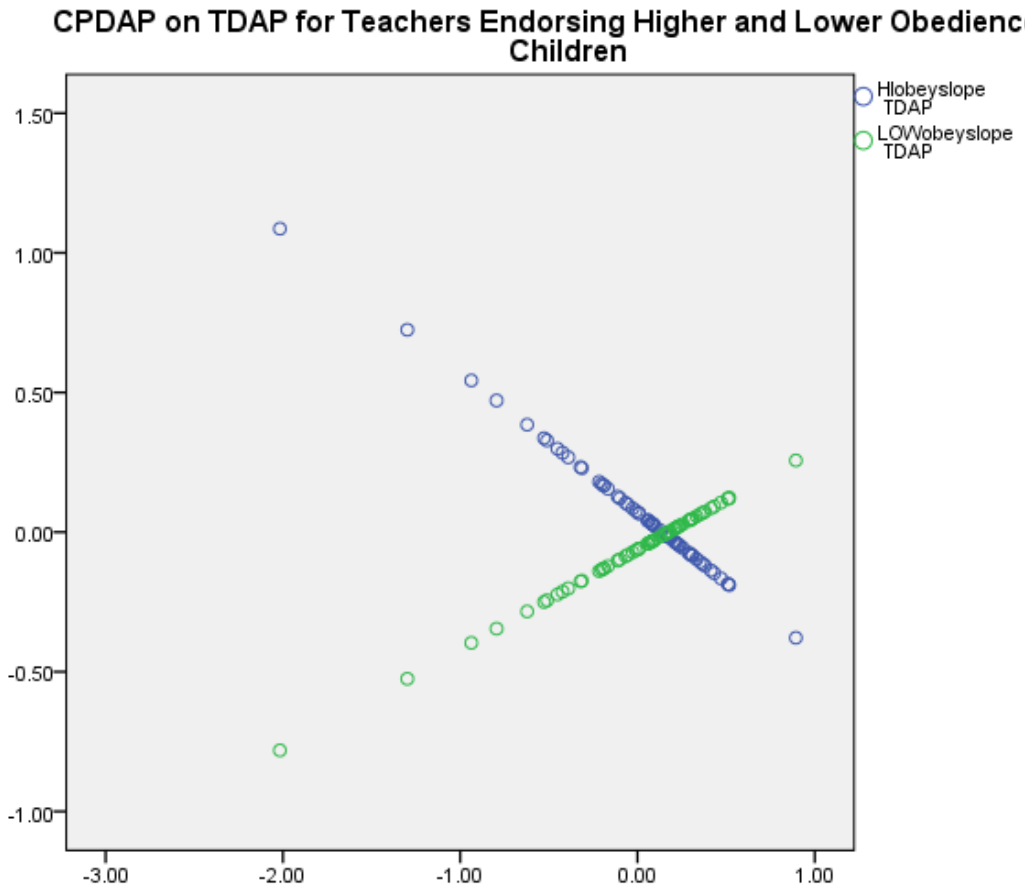


Figure 6. Regression lines for the relations between teacher beliefs in DAP and DAP classroom practices as moderated by high and low levels of beliefs in the importance of obedience

The same procedures were followed for testing the moderator of county size. Regression equations were also created for the variables large county population and small county population by conducting two simultaneous regressions, one each for counties with population greater than or equal to 40,000 inhabitants and for counties with population less than 40,000 inhabitants. For the regression being evaluated for high county size, the slope for the relation of DAP beliefs to DAP classroom practices (b=.23) was not significant (t=1.49, p=.14). Likewise for small counties, the slope for the relation

of DAP beliefs to DAP classroom practices (b=-.38) of the line for small county size was not significant (t=-1.49, p=.14).

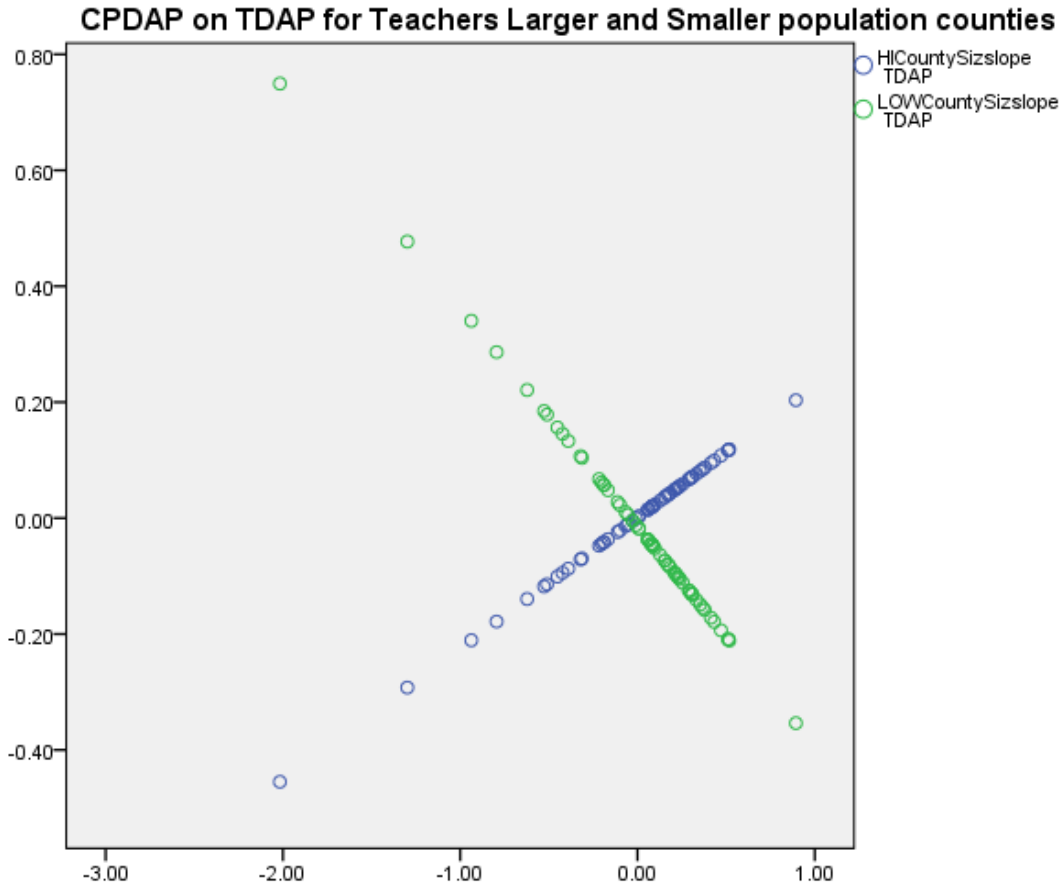


Figure 7. Regression lines for the relations between teacher beliefs in DAP and DAP classroom practices as moderated by large and small county population size

Mediators

It was proposed that relations of teachers' characteristics to time allocated to DAP activities, DIP activities, and scripted teaching would be mediated by teachers' beliefs about DAP. Although there were significant correlations between teacher characteristics (pre-K years taught and child development courses taken) and DAP beliefs and between

teacher characteristics (having taught kindergarten and years teaching kindergarten) and time allocated to DAP activities, there were no significant correlations across all three parts of the mediation models. Therefore, no evidence of mediation was present in the analyses of teacher variables.

Study 2: Principal characteristics, beliefs, and preferred classroom practices

Principal characteristics and principal beliefs

Correlations between principals' characteristics and principals' beliefs were conducted. The number of courses completed in early childhood education was significantly correlated with the beliefs about DAP (r=.36, p=.00). Both ECE and Elementary education certification due to passing the state exam in these subject areas were significantly positively correlated with beliefs about DAP (r=.59, p=.00; r=.34, p=.01; respectively). The number of years as a principal was significantly negatively correlated with beliefs about DAP (r=-.25, p=.04). The number of years teaching preschoolers was positively correlated with DAP beliefs (r=.35, p=.00). Having taught fourth through sixth grades and the number of years teaching fourth through sixth grades were significantly negatively correlated with DAP beliefs (r=-.35, p=.00; r=-.30, p=.02; respectively). Correlations between principal characteristics and principal beliefs may be found in Table 18.

Principals' characteristics and preferred classroom practices

Having taught first through third grades was significantly negatively correlated with beliefs about using workbooks and worksheets in the classroom (r=-.29, p=.02). The

number of years principals taught fourth through sixth grades was significantly negatively correlated with beliefs about DAP classroom time (r=-.32, p=.01). These correlations are listed in Table 19.

In addition to correlations between professional experience and preferred classroom practices, correlations between certifications held, degrees obtained, and courses taken with preferred classroom practices were conducted. There were significant positive correlations between ECE state certification and principals' beliefs about classroom time allocated to DAP (r=.41, p=.00). The number of courses in early childhood education was significantly correlated with beliefs about amount of classroom time spent in DAP (r=.27, p=.03). There were not any significant correlations between certifications held, degrees obtained, and courses taken with frequency of workbooks/worksheets or frequency of scripted teaching. Table 19 contains the correlations between certifications held, degrees obtained, and courses taken to preferred classroom practices.

Table 18.

Correlations of principal characteristics and principal beliefs

	ECE courses taken	ECE state certification	Elementary state certification	Years as principal	Preschool years taught	Taught 4th to 6th grades	Years teaching 4th to 6th grades	Principals' DAP beliefs	NCLB
ECE courses taken	1								
ECE state certification	.59***	1							
Elementary state certification	.21	.38**	1						
Years as principal	.03	-.22	.31**	1					
Preschool years taught	.30*	.41***	.35**	-.22	1				
Taught 4th to 6th grades	-.34**	-.45***	.04	.051	-.17	1			
Years teaching 4th to 6th grades	-.24	-.27*	.20	.103	-.10	.76***	1		
Principals' DAP beliefs	.36**	.59***	.34**	-.25*	.35**	-.35**	-.30*	1	
NCLB	.19	.151	.05	-.19	-.06	-.07	-.04	.35**	1
M	2.86		.39	7.84	.98		3.81	3.42	3.52
SD	4.31		.49	7.84	2.85		5.91	.42	.99

*$p \leq .05$. **$p \leq .01$. ***$p \leq .001$

Table 19.

Correlations between principals' characteristics and preferred classroom practices

	1.	2.	3.	4.	5.	6.	7.	8.
1.Years as a principal	1							
2.Years teaching preschoolers	-.22	1						
3.Taught 1st to 3rd grades	-.07	.26*	1					
4.Years teaching 4th to 6th grades	.10	-.10	.19	1				
5. ECE state certification	-.22	.40***	.11	-.27*	1			
6. ECE courses taken	.03	.30*	.04	-.24	.59***	1		
7. Beliefs about DAP classroom time	-.17	.13	.10	-.33**	.41***	.27*	1	
8.Beliefs about workbooks	-.21	-.19	-.29*	.01	.44	4.31	-.15	1
M	7.84	.98	.44	3.81	1.74	2.86	5.38	4.32
SD	7.84	2.84	.50	5.90			.55	1.57

*$p \leq .05$. **$p \leq .01$. ***$p \leq .001$

Principals' DAP beliefs and preferred classroom practices

Principals' beliefs regarding DAP were significantly correlated with principals' preferred classroom practices. There were significant positive correlations between DAP beliefs and beliefs about DAP classroom time (r=.60, p=.00). Principals' beliefs about No Child Left Behind were also significantly correlated with beliefs about DAP classroom time (r=.25, p=.04). For the full list of these correlations see Table 20.

Table 20.

Correlations of principals DAP beliefs and preferred classroom practices

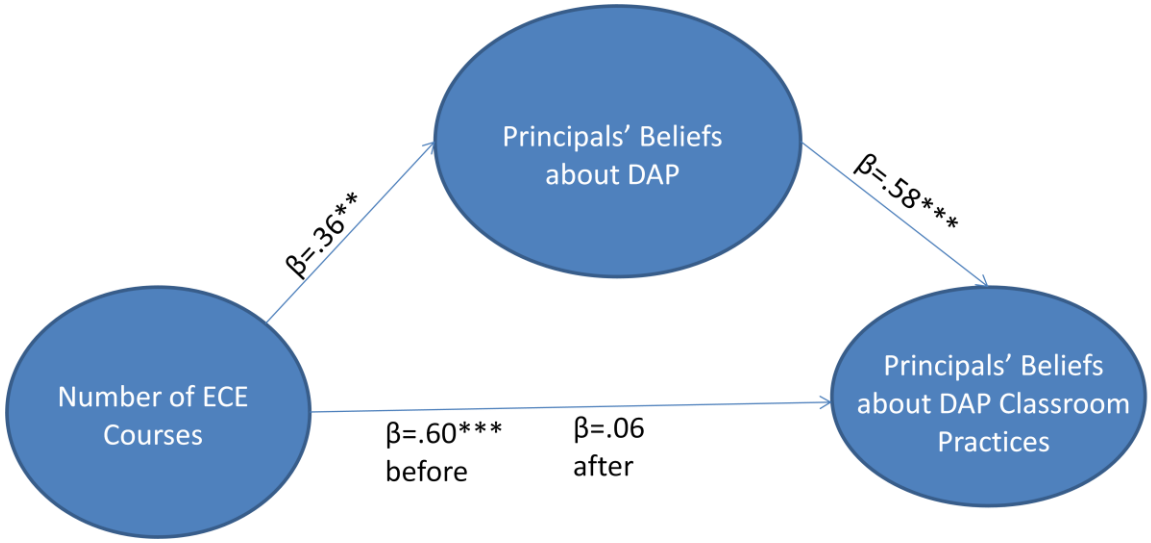
	1	2	3	4	5
1.DAP beliefs	1				
2.NCLB	.35**	1			
3.Beliefs about DAP classroom time	.60***	.25*	1		
4.Frequency of workbooks	-.04	-.08	-.15	1	
5.Standardized tests	-.07	.12	-.37**	.32**	1
M	3.42	3.52	5.38	4.32	2.23
SD	.43	.99	.55	1.57	1.48

*$p \leq .05$. **$p \leq .01$. ***$p \leq .001$

Mediators

One partial mediator was present in the principal data. The relation between number of courses taken in early childhood education and principals' beliefs about time allocated to DAP classroom practices was partially mediated by principals beliefs about DAP. There was a significant regression coefficient for the relation between ECE courses and DAP beliefs (*b*=.05, *se*=.02, *p*=.003), ECE courses taken and principal beliefs in time allocated to DAP classroom practices (*b*=.03, *se*=.02, *p*=.03), and DAP beliefs and beliefs about time allocated to DAP classroom practices after controlling for ECE courses (*b*=.54, *se*=.10, *p*=.00). Most importantly, the relation between ECE courses and principal beliefs about the time allocated to DAP classroom practices diminished and was no longer significant (*b* = .01, *se* = .01, *p* = .60). The final mediation model is shown in

Figure 8, where standardized path coefficients are depicted. Mediation was further tested using the method outlined by Holmbeck (2002) including Sobel's equation for computing the standard error of the indirect effect. The mediation model was significant (z=2.70, p = .004) Therefore the relation between the number of classes taken in early childhood education and principal beliefs regarding classroom time allocated to DAP practices was partially mediated by principals beliefs about DAP.



*$p \leq .05$ **$p \leq .01$ ***$p \leq .001$

Figure 8. Mediators between principals' characteristics and principals' beliefs about teacher classroom practices

CHAPTER V

CONCLUSIONS

Overview of findings

The findings of this study were supportive of some hypotheses and the application of the ecological model presented. As proposed, characteristics of principals and teachers were related to principal and teacher beliefs about DAP and were, in turn, related to beliefs about classroom practices (principals) and actual classroom practices (teachers). These findings are further explained in the following discussion.

Breakdown of the findings

Study 1: Teachers' characteristics, beliefs, and classroom practices

Teachers' characteristics were significantly correlated with teachers' beliefs about DAP. The number of years of pre-kindergarten teaching experience was positively correlated with teachers' beliefs about DAP. This is congruent with previous findings in the literature stating that the longer a person has taught the more the teacher believes in DAP (McMullen, 1997; Phillips et al., 2009). On the contrary, the number of child development courses was negatively correlated with DAP beliefs which was the opposite

of the hypothesized relation and previous research (McMullen, 1997). Teachers' beliefs in the importance of obedience was positively correlated with the number of child development courses taken which is also the opposite direction of that hypothesized (NICHD, 1996). One reason for this may be explained in the literature. This may be explained by discrepancies between child development courses and teacher pedagogy courses. This will be further discussed later in the text under "application to policy and curriculum."

Teacher characteristics were also related to DAP classroom practices. Teachers who had experience teaching kindergarten reported lower levels of DAP in their classroom than teachers who had not taught kindergarten. Additionally, as the number of years teaching kindergarteners increased, reported DAP classroom practices decreased. This may be due in part to degrees earned and the programs from which the teachers graduated. At the time of this study, in Oklahoma pre-K teachers could have completed their student teaching placements in elementary classrooms and then taken and passed the state certification test in early childhood education before becoming an ECE teacher (Oklahoma State Department of Education [OSDE], 2010). Doing this decreases the number of classes taken in early childhood education and removes the necessity for practice teaching in an ECE classroom. The current findings may be interpreted in light of those of Goodman (1988) and Zeichner and Tabachnick (1981), who reported that teacher education programs are not necessarily correlated with teacher DAP practices but that well supervised classroom teaching experiences are correlated with teacher DAP classroom practices. Therefore, the unusual relation found in the current study may be due in part to the type of education program from which the students graduated. Teachers

who did not complete an ECE program would have experienced fewer well-supervised hours in pre-K classrooms and therefore have lower DAP beliefs.

Teacher DAP beliefs were not significantly correlated with any of the classroom practices. This is contrary to hypotheses and to literature in the past (Bryant, et al., 1991; Vartulli, 1999) but is congruent with discrepancies between DAP beliefs and DAP classroom practices in previous studies (McMullen, 1999; Parker & Neuharth-Pritchett, 2006). In the current study, this discrepancy led to further probing using moderators. The moderators selected were authoritarian beliefs (belief in the importance of obedience), county size, and the number of boys and girls in the class. Authoritarian beliefs (the importance of obedience) and county size were significant moderators between teacher DAP beliefs and DAP classroom practices. However, the number of boys and the number of girls in the classroom were not significant moderators between teacher DAP beliefs and DAP classroom practices.

For teachers with lower scores (less than 3) on belief in the importance of obedience, beliefs about DAP were positively correlated with classroom DAP. Therefore, if teachers had low authoritarian beliefs, as their beliefs in DAP increased, DAP practices in the classroom increased as well. However, teachers with higher authoritarian beliefs (belief in the importance of obedience scores equal to 3 or higher) had classroom DAP scores that were significantly negatively associated with DAP classroom practices. In other words, when teachers had higher authoritarian beliefs, as their beliefs in DAP increased their DAP classroom practices decreased. One possible interpretation of this finding is attributed to classroom management. Teachers with higher beliefs in the importance of obedience may believe in DAP but not implement those beliefs in the

classroom because it is difficult to abdicate the amount of control necessary to implement these DAP classroom practices. This may be a result in the need for adults with higher authoritarian skills to dictate to the children what they need to do (Schaefer & Edgerton, 1985). As a result, child obedience becomes an overriding factor (NICHD, 2004).

For teachers with lower levels of belief in the importance of obedience, the relation between DAP beliefs and DAP classroom practices are congruent with literature (McMullen 1999; Vartulli, 1999). As stated in the literature, it is proposed that there be a positive correlation between DAP beliefs and DAP classroom practices. The findings in the current study support the findings by McMullen (1999) where as teachers' beliefs in DAP increase their DAP classroom practices increase as well.

County population was also a significant moderator between teachers beliefs about DAP and using DAP classroom practices, although the post hoc tests were not significant. For the teachers from larger counties, counties with a population greater than or equal to 40,000 people, DAP beliefs were positively related to DAP classroom practices. However, for teachers from counties with smaller populations, those with a population of fewer than 40,000 people, there was a negative association between the teachers' beliefs about DAP and DAP classroom practices

This may be due in part to the differences in community familiarity and acquaintance with teachers in larger versus smaller counties. In larger counties there may be more anonymity for teachers, thus spawning a feeling that what is stated does not necessarily have to be is practiced and that this inconsistency can go unnoticed. In smaller counties where there is greater likelihood of people being acquainted with one

another there could be a higher level of accountability for beliefs being congruent with practices. As stated in Beeson and Strange (2000) there is professional isolation of teachers and administrators in rural communities as a result of jobs in smaller communities and the transparency resulting from less densely populated areas.

Study 2: Principal Characteristics, Beliefs, and Preferred Classroom Practices

In the principal data, principals' characteristics were significantly correlated with principals' beliefs about DAP and NCLB. One such correlation is that between teaching certifications and outcome variables. Principal beliefs about DAP were positively correlated with both ECE and elementary education state certification. Additionally, principals' beliefs about DAP and time allocated to DAP activities were positively correlated with the number of ECE courses taken. Therefore, a background in ECE, whether teaching or passing the state certification test in that area, is indicative of both DAP beliefs and beliefs in the importance of allocating time to DAP in the classroom. The number of courses a principal reported taking in ECE was significantly positively correlated with the ECE certification. Therefore, the more courses the principal has in ECE the more likely the principal is to have ECE certification.

The number of years principals taught preschoolers was positively correlated with principals' beliefs about time allocated to DAP in the classroom. The number of years that principals reported teaching first through third grade was negatively correlated with the use of workbooks. This shows that principals who have experience teaching with preschoolers and younger elementary grades have higher beliefs in the importance of

DAP and believe less classroom time should be allocated to workbooks (DIP activities) and worksheets in the classroom.

The number of years teaching experience with fourth through sixth grades was negatively correlated with the amount of time allocated to DAP activities. This suggests that principals' teaching older children does not increase their understanding of the importance of DAP teaching practices but teaching experience with classrooms of younger children increases understanding of the importance of DAP in the classroom. This may be due in part to principals with teaching experience in higher grades being less likely to have taken or completed ECE and child development course work thus leading to decreased understanding of and beliefs in DAP.

This significant relations between principals' characteristics and principals' beliefs about both DAP and DAP classroom practices enrich the literature about principals' in rural schools. French and Pena (1997) found that principals from more rural areas were less supportive of DAP practices than principals from more populated areas. The current study increases understanding of this by illuminating differences within principals from areas with lower populations. These differences extend beyond the previously found population differences to educational backgrounds (ECE courses), certifications (ECE certifications and Elementary Education certifications), and teaching experience (years teaching preschoolers, younger elementary children, and older elementary children).

Principal beliefs were related to preferred classroom practices. Principal beliefs about DAP were positively related to principals' beliefs about how time should be

allocated to DAP activities in the classroom. Therefore, as principals' beliefs about DAP increase so do principals' beliefs about DAP classroom practices. Principals' DAP beliefs were negatively correlated with principals' beliefs about the frequency of using workbooks and worksheets in the classroom.

Increases in principals' beliefs in No Child Left Behind paralleled increases in their beliefs about time allocated to DAP activities. Therefore, as principals' beliefs that NCLB influenced classroom practices, they also believed that more time should be allocated to DAP in the classroom. These two beliefs may be independent of one another. These findings may illuminate the complexity of balancing DAP beliefs with the multiple factors that influence principals' abilities to implement these beliefs in the classroom while meeting state standards that must be met in order for schools to survive and for children to make progress.

It was proposed that there would be relations between the beliefs of the influence of NCLB and classroom practices as proposed from previous literature (Baker & Dever, 2005). Beliefs in NCLB and principals' belies in classroom time allocated to DAP were significantly positively correlated. This was in opposition to the proposed negative correlation. One possible explanation for this is that child developmentalists and teachers, regardless of their beliefs in DAP, reported that they believe that preschool and kindergarten is becoming more academic due in part to external pressures such as policy mandates and the influence of school board decisions (Parker & Neuharth-Pritchett, 2006).

The number of early childhood education courses was significantly correlated with principals' beliefs about DAP and to the amount of time in the classroom allocated to DAP activities. Principals' DAP beliefs were also significantly correlated with beliefs about time allocated to DAP activities. Because of these significant correlations, DAP beliefs were tested as a mediator between the number of early childhood education classes taken and time allocated to DAP in the classroom and did partially mediate the relation. Therefore, principals' beliefs about DAP does serve, in part, as a mechanism driving the relation between early childhood classes taken and time allocated to DAP activities in the classroom helping to clarify the relation between the two.

Limitations of the study

This study was conducted with principals and teachers; however the teachers and principals did not represent the same schools. Only 16 of the responding principals and teachers were from the same school. Having principals and teachers representing different schools limited the study as comparisons could not be made between teachers and principals beliefs. Additionally, predictions between principals beliefs and teachers' reports of classroom practices could not be made and moderators and mediators could not be tested between principal data and teacher data.

Additionally, this study should be expanded to include schools of different sizes representing different sized districts. Expanding the study in this way would allow for comparisons between school sizes, district sizes, and regions (urban versus rural). Beyond comparisons that were made in this study, comparisons between resources could be made. One group of information that was collected from the teachers was about

limitations to different DAP practices and classroom sections. These could be compared between the different district sizes and regions.

One of the challenges for using multiple teachers from each school or more than one school from each district is the issue of nesting and equal representation between the large schools and the small school districts. When a district has only one school and a school has only one pre-K class/teacher then this school receives more weight or less than the schools and districts where there are multiple schools in the districts or multiple pre-K classes/teachers in each school.

Several of the items (such as "certificates held") did not have answers listed by the teachers or principals. Because of the way the items were written (see appendices B and C), if an answer was not marked "yes" or "no" then an answer of "no" was assumed. Because this happened there was not a way to distinguish between "no" answers and missing data.

Strengths of the study

The greatest strength of this study is the data gathered from both principals and teachers. The principals provided information about administrators' characteristics and beliefs of those from small districts in Oklahoma. The teachers' provided information about both classrooms and themselves from small districts in Oklahoma. Having both of this information is a strength as there are few public school studies about early childhood education teachers in public schools and administrators and their perspectives about pre-K classes.

Another strength of this study is the development of the multilayered systems from human ecology theory applied to the public school and pre-K classrooms. Using this theory, allows for the analyses of multiple variables that can influence principals, teachers, and classrooms and in different ways.

This study comes at a very pertinent time when the educational system in the United States is under scrutiny by the general public and during election time when new representatives of the people are being elected.

Future directions for curriculum, policy, and research

One positive continuing education change is the implementation of mentoring programs between teachers new to the pre-K classroom and teachers with many years of experience teaching in pre-K classrooms. This program would not be a mentoring program simply between novice teachers and experienced teachers because of the negative relation between years having taught kindergarten and DAP beliefs, but rather between teachers who have taught in the pre-K classroom for several years and teachers who, despite their past teaching experience, are new to the pre-K classroom.

In light of the negative correlation between child development courses taken to both DAP beliefs and DAP classroom practices, teacher education curriculum at the university level needs to be further developed. Both of these findings highlight the need for greater connections between theory and the implementation of that theory in the classroom. Although students enroll in theory classes regarding authoritarian beliefs and DAP, understanding how DAP is implemented in the classroom through activities may not always be clear to the teachers.

Future studies are needed to determine differences between private pre-K classes and directors of these facilities as compared with public school pre-K classrooms. As reported in the principal portion of this project, there are different applications that can be made both to policy and guidelines or requirements for principals in the schools. As the number of pre-K classes in the public schools increases it is important that the leadership in these institutions understand DAP and the importance of practicing DAP in the classroom. It can be noted that principals preferred classroom practices in DAP are mediated by principal DAP beliefs which increase as the number of courses in early childhood education increases. Therefore, it is important to evaluate the number of courses in ECE that a principal should have taken or the continuing education that is required of elementary principals in ECE.

In addition to principal knowledge about ECE, it is important to emphasize the need for established guidelines about principals working in administration in schools that represent the area in which they have the majority of their experience. This is reflected in the results from this study regarding principals' teaching experiences with older classes relating negatively to their DAP beliefs as well as their classroom expectations and the portion of this study with correlations between principals' teaching experience in preschool and younger elementary classes relating positively to their beliefs in DAP and DAP classroom practices.

When educational policies are developed and implemented, it is essential that the influence of those policies, whether direct or indirect, in the pre-K classroom. Policies that require testing for young children and performance based assessments in early

elementary school change expectations in the pre-K classrooms and are detrimental to the comprehensive development of children.

Further, more in-depth study of the programs from which the teachers and principals complete their training would be beneficial. This would allow for cross comparisons between training, supervision during training, beliefs, implementation of these beliefs in the classrooms, and the influence of principals or supervisors.

Conclusion

In conclusion, preschool education is important in the long term learning of children (Hirsch-Pasek et al., 2009; Marcon, 2002). This education is influenced by different experiences children have in the classroom. Developmentally appropriate practices and activities best serve the children and foster a positive learning environment for the children. There are many factors influencing these learning environments including teachers' characteristics, beliefs, and actual practices. Principals' characteristics and beliefs are also interrelated and influence one another. This study informs future studies by providing a structure and outlining possible correlations between the principal and teacher systems.

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APPPENDICES

Appendix A. Glossary

Word	Acronym	Definition
Developmentally Appropriate Practices	DAP	DAP refer to teaching methods where teachers design teaching based upon social, emotional, physical, and cognitive development, developmental theories, and each child's background and abilities (Maxwell, McWilliam, Hemmeter, Ault, & Schuster, 2001; McMullen, 1997; NAEYC, 2009).
Individualized Educational Plan	IEP	IEP is a specialized plan outlining methods of intervention for children with special needs (Pretti-Frontczak, 2000).
Individualized Family Services Plan	IFSP	IFSP outlines goals and objectives and is a plan for assisting families of children who qualify for early intervention and the children's families (Learning Disabilities of America, retrieved on December 9, 2010).
Developmentally Inappropriate Practices	DIP	DIP are actions that are not suited for children of specific ages based upon the developmental stage of the child and may include:

		regimented teaching styles (e.g., scripted teaching), didactic teaching, workbooks, rote memorization, and teacher-initiated activities (NAEYC, 2009).
Priority Academic Student Success	PASS	PASS refers to "a set of specific school academic standards covering all areas of a student's growth: language, mathematics, science, social studies, and the arts" (Garrett, retrieved June 3, 2010).

Appendix B. Teacher Questionnaire

Teacher Questionnaire: Background Information

Please take a few minutes and provide us with some basic information about who you are:

Age: _____ **Gender:** ○ Female ○ Male

Marital Status: ○ Single (never married)
○ Separated, divorced or widowed
○ Married or living with a partner

Ethnicity: ○ African American/Black ○ Asian or Pacific Islander
○ Caucasian ○ Native American
○ Hispanic/ Latino ○ Biracial or Multiracial

Educational Background: Please complete all that apply.

Associates Degree ○ Yes ○ No Field of Study_____

Bachelors Degree ○ Yes ○ No Field of Study_____

Masters Degree ○ Yes ○ No Field of Study_____

Doctorate Degree ○ Yes ○ No Field of Study_____

How many college courses in child development have you taken? _____

How many college courses in early childhood education have you taken? _____

Certification Information:

	Method of Completing Certificate		
Certificates Held	Completed College Teacher Education Program	Passed State Subject Area Teaching Exams	Alternative Certification
Early Childhood (PreK—3rd grade)	○ Yes ○ No	○ Yes ○ No	○ Yes ○ No
Elementary (1st—8th grade)	○ Yes ○ No	○ Yes ○ No	○ Yes ○ No
Special Education	○ Yes ○ No	○ Yes ○ No	○ Yes ○ No
Other (please list)	○ Yes ○ No	○ Yes ○ No	○ Yes ○ No

Teaching Experience:

Please indicate how many years you have taught the following:

○ Infants/Toddlers ○ Two-year-olds ○ Three-year olds

○ PreK ○ K ○ Grades 1-3 ○ Grades 4-6 Other _____

How many years **total** have you taught young children? _____

How many years do you plan to continue to teach young children? _____

We would like to know your beliefs about what makes children successful students in school.

Please circle the appropriate number that indicates how strongly you personally agree with the following statements.

In my opinion….		**Strongly Disagree**	**Mildly Disagree**	**Not Sure**	**Mildly Agree**	**Strongly Agree**
a.	since parents lack special training in education, they should not question the teacher's teaching methods.	○	○	○	○	○
b.	children should be treated the same regardless of differences among them.	○	○	○	○	○
c.	children should always obey the teacher.	○	○	○	○	○
d.	preparing for the future is more important for a child than enjoying today.	○	○	○	○	○
e.	children will not do the right thing unless they are told what to do.	○	○	○	○	○
f.	children should be allowed to disagree with their parents if they feel their own ideas are better.	○	○	○	○	○
g.	children should be kept busy with work and study at home and at child care settings.	○	○	○	○	○
h.	the major goal of education is to put basic information into the minds of the children.	○	○	○	○	○
i.	in order to be fair, a teacher must treat all children alike.	○	○	○	○	○
j.	the most important thing to teach children is absolute obedience to whoever is in authority.	○	○	○	○	○
k.	children learn best by doing things themselves rather than listening to others.	○	○	○	○	○
l.	children must be carefully trained early in life or their natural impulses will make them unmanageable.	○	○	○	○	○
m.	children have a right to their own point of view and should be allowed to express it.	○	○	○	○	○
n.	children's learning results mainly from being presented basic information again and again.	○	○	○	○	○
o.	children like to teach other children.	○	○	○	○	○
p.	the most important thing to teach children is absolute obedience to parents.	○	○	○	○	○

In my opinion….		Strongly Disagree	Mildly Disagree	Not Sure	Mildly Agree	Strongly Agree
q.	disruptive children are typically rebellious and self-centered	○	○	○	○	○
r.	children's strong emotions get in the way of real learning.	○	○	○	○	○

Schaefer & Edgerton (1985)

We would like to know your opinions about classroom learning environments.

In my opinion….		Strongly Disagree	Mildly Disagree	Not Sure	Mildly Agree	Strongly Agree
a.	Time out is an effective tool in changing children's negative behavior.	○	○	○	○	○
b.	When children misbehave, I view it as an opportunity to teach important social/emotional skills.	○	○	○	○	○
c.	When conflict emerges between children, I typically send them to time out.	○	○	○	○	○
d.	A sense of emotional safety is crucial to the learning environment.	○	○	○	○	○
e.	The relationship between the child and the teacher is an important aspect of the learning environment.	○	○	○	○	○
f.	The emotional climate of the classroom highly influences learning and cannot be ignored.	○	○	○	○	○
g.	It is important for most of the class activities to be teacher directed in order to make the best use of instructional time	○	○	○	○	○
h.	Learning to recognize and empathize with the emotional states of others is an important goal in the early learning environment.	○	○	○	○	○
i.	Helping children develop self regulation is an important goal of the learning environment.	○	○	○	○	○
j.	Creating environments that nurture and support children's curiosity is an important part of the learning environment.	○	○	○	○	○
k.	Playful learning in early childhood classrooms is important to children's early learning	○	○	○	○	○
l.	Outdoor play and movement are a waste of instructional time in the learning environment.	○	○	○	○	○
m.	Teaching children social skills such as turn taking, sharing, and cooperating is an important part of the classroom curriculum.	○	○	○	○	○
n.	Helping children identify and manage personal feelings is an important goal of the curriculum	○	○	○	○	○
o.	Children need a classroom that encourages creativity in play, art, writing, and other forms of expression.	○	○	○	○	○

Please indicate how much <u>you believe</u> the following influence <u>YOUR</u> classroom teaching.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a.	Developmental and/or educational theories	○	○	○	○	○
b.	My educational and/or training background	○	○	○	○	○
c.	Community expectations	○	○	○	○	○
d.	Administrator expectations	○	○	○	○	○
e.	Standardized testing expectations	○	○	○	○	○
f.	School or district textbooks and/or required curriculum	○	○	○	○	○
g.	State learning standards (PASS)	○	○	○	○	○
h.	Income level of children's families	○	○	○	○	○
i.	Teaching styles of other grade-level teachers	○	○	○	○	○
j.	Expectations associated with NCLB	○	○	○	○	○
k.	Needs of the children	○	○	○	○	○
l.	Parents' expectations	○	○	○	○	○
m.	Funding and available resources	○	○	○	○	○
n.	Amount of time in the day	○	○	○	○	○
o.	Amount of available space in the classroom	○	○	○	○	○
q.	Research findings about classroom teaching	○	○	○	○	○

How satisfied are you with the developmental appropriateness of the following activities in your classroom?

Activity	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied
Blocks	○	○	○	○	○
Dramatic Play	○	○	○	○	○
Outdoor Activities	○	○	○	○	○
Preparing for/Taking Standardized Tests	○	○	○	○	○
Use of Workbooks, Worksheets, etc.	○	○	○	○	○
Child-initiated Play	○	○	○	○	○
Use of storybooks	○	○	○	○	○
Sand, Water, Sensory Play	○	○	○	○	○

Please tell us about your prek class--

How long is your class day? ○ Full Day ○ Half Day

How many children are in your class? _____ Boys _____ Girls

How many children are on an IFSP or IEP? _____

How many children have you recommended for testing for special needs or developmental delays? _____

How many children will be ready for kindergarten in the coming fall? _____

Whole Group Specials

Reflect upon your typical weekly schedule and identify the "special" activities in which your children participate. A "special" is defined as a period of time in which the children are led by another professional in a specific learning activity.

	How many times per week?	How long is the session?	How long does it take to get there?
Music			
PE			
Computers			
Counselor			
Library			
Art			
Foreign Language			

Individual or Small Group Pull Out

Reflect upon the different interventions and support provided to children with special needs. Estimate the amount of time individual children participate in these interventions.

	How many times per week?	How many children participate?	How long is each session?
ELL			
Counseling			
Speech			
Occupational Therapy			
Literacy tutoring			
Math tutoring			
Standardized Testing			
Physical therapy			

What would you like to change about your instructional time, curriculum, or organization of your room?

Organization of Instructional Time

Estimate the amount of time spent on a daily basis in the following activities:

	None	1-15 minutes	16-30 minutes	31-45 minutes	46-60 minutes	61-75 minutes	76-90 minutes
Whole Group Instruction	○	○	○	○	○	○	○
Small Group Instruction	○	○	○	○	○	○	○
Individual Instruction	○	○	○	○	○	○	○
Interest Centers or "Choice Time"	○	○	○	○	○	○	○
Outdoor Play	○	○	○	○	○	○	○
Opening Activities	○	○	○	○	○	○	○
Circle Time	○	○	○	○	○	○	○
*Scripted or packaged literacy curriculum	○	○	○	○	○	○	○
*Scripted or packaged math curriculum	○	○	○	○	○	○	○
Instructional materials such as workbook, worksheets and flash cards	○	○	○	○	○	○	○
Preparation and administration of standardized tests	○	○	○	○	○	○	○
Child-initiated play	○	○	○	○	○	○	○

*A "scripted" activity refers to prepared curriculum such as Saxon or Literacy First

Interest Center Time

Check all the statements that apply to your interest center time:

○ I don't have an interest center or choice time.

○ I tell children what activities they will do.

○ Children are allowed to choose the activities they do.

○ Children combine materials from different centers.

○ Children move from activity to activity at their own pace.

○ I use center time to take care of administrative details.

○ Children are rotated through centers on a time schedule.

○ I am an active participant/observer in children's activities.

Check the interest centers that are available in your classroom.

○ Art ○ Blocks ○ Math ○ Manipulatives ○ Library ○ Science

○ Writing ○ Computers ○ Wood Working ○ Cooking ○ Other (explain)

Frequency of Learning Experiences

How often do these occur?	Never	Occasionally	Monthly	Biweeky	Weekly	Daily
Dramatic play	○	○	○	○	○	○
Legos, tinker toys, bristle blocks or other open-ended materials	○	○	○	○	○	○
Block play	○	○	○	○	○	○
Sensory play, i.e. water, beans, sand	○	○	○	○	○	○
Craft projects, i.e. holiday themes	○	○	○	○	○	○
Open-ended art experiences	○	○	○	○	○	○
Math manipulatives	○	○	○	○	○	○
Science activities	○	○	○	○	○	○
Computer activities	○	○	○	○	○	○
Reading story books	○	○	○	○	○	○
Reading leveled readers	○	○	○	○	○	○
Opportunities to write and use invented spelling	○	○	○	○	○	○
Music and creative movement	○	○	○	○	○	○
Instructional materials such as workbooks and worksheets	○	○	○	○	○	○
Board games involving counting	○	○	○	○	○	○
Standardized testing and test preparation	○	○	○	○	○	○

Factors Limiting Opportunities in the Classroom

	Lack of Time	Lack of Funding	Not in the Curriculum	Not valued by Administration	Not important for this age	Safety Issues	Lack of Space
Art							
Blocks							
Dramatic Play							
Science							
Child Initiated Play							

Outdoor Play

Check all the materials typically available for outdoor play experiences:

○ swings ○ merry-go-round ○ slide ○ climbing equipment ○ balance beam

○ see saw ○ teeter totter ○ sand box ○ tricycles ○ other (explain)

Check all of the play experiences typically available in the outdoor environment.

○things to pull (pulleys, wagons etc.) ○things to push ○art materials ○materials for construction

○ gardening ○ materials for science investigations (magnifying glasses, binoculars, bug catchers, etc.)

○ materials for dramatic play ○ other (explain)

Identify the different types of spaces available in your outdoor play space:

○ shade ○ sitting ○ eating ○ storage ○ digging ○ composting

○ solitude ○ other (explain)

Check all that apply regarding outdoor play:

○ It is generally the children who decide what to do during outdoor play.

○ Outdoor play is highly structured and teacher driven.

○ Children play only on the stationary equipment provided.

○ I plan intentional learning activities suitable for the outdoor environment such as art, dramatic play etc.

○ I often organize and supervise group games such as “Duck, Duck, Goose” or “Mother May I?”

My primary role during outdoor play is:

○observer ○protector of children’s safety ○play partner ○materials provider

○ conflict manager ○ planner of activities ○ organizer of group games

○ I use this time to plan and take care of administrative details

○ I use this time to visit with colleagues

Select all of the following that limit outdoor play for your class—

○ Lack of funding ○ Lack of time ○ Curriculum doesn’t incorporate it

○ Administration doesn’t support it ○ Safety issues ○ Space issues

○ Activity isn’t important to me ○ Other (specify)

Appendix C. Principal Questionnaire

Principal Questionnaire: Background Information

Please take a few minutes and provide us with some basic information about who you are:

Age: _____ **Gender:** ○ Female ○ Male

Marital Status: ○ Single (never married)
○ Separated, divorced or widowed
○ Married or living with a partner

Ethnicity: ○ African American/Black ○ Asian or Pacific Islander
○ Caucasian ○ Native American
○ Hispanic/ Latino ○ Biracial or Multiracial

Educational Background: Please complete all that apply.

Associates Degree ○ Yes ○ No Field of Study_____

Bachelors Degree ○ Yes ○ No Field of Study_____

Masters Degree ○ Yes ○ No Field of Study_____

Doctorate Degree ○ Yes ○ No Field of Study_____

How many college courses in child development have you taken? _____

How many college courses in early childhood education have you taken? _____

Certification Information:

	Method of Completing Certificate		
Certificates Held	Completed College Teacher Education Program	Passed State Subject Area Teaching Exams	Alternative Certification
Early Childhood (PreK—3rd grade)	○ Yes ○ No	○ Yes ○ No	○ Yes ○ No
Elementary (1st—8th grade)	○ Yes ○ No	○ Yes ○ No	○ Yes ○ No
Special Education	○ Yes ○ No	○ Yes ○ No	○ Yes ○ No
Other (please list)	○ Yes ○ No	○ Yes ○ No	○ Yes ○ No

Teaching Experience:
Please indicate how many years you have taught the following:

Infants/Toddlers _____ Two-year-olds _____ Three-year olds _____

PreK _____ K _____ Grades 1-3 _____ Grades 4-6 _____ Other _____

Administrative Experience:

How many years have you been a principal? _____

Please respond to the following items by circling the number that most nearly represents YOUR PERSONAL BELIEFS about the importance of the item in a prek or kindergarten classroom.

	In my opinion….	**Not Important At All**	**Not Very Important**	**Fairly Important**	**Very Important**	**Extremely Important**
a.	As an evaluation technique in the prek/k program standardized group tests are_____	○	○	○	○	○
b.	As an evaluation technique in the prek/k program, performance on worksheets and workbooks are _____	○	○	○	○	○
c.	It is _____ for prek/k activities to be responsive to the individual differences in interests.	○	○	○	○	○
d.	It is _____ for prek/k activities to be responsive to individual differences in development.	○	○	○	○	○
e.	It is _____ that each curriculum area be taught as separate subjects at separate times.	○	○	○	○	○
f.	It is _____ for children to be allowed to select many of their own activities from a variety of learning areas that the teacher has prepared (blocks, science center, etc.).	○	○	○	○	○
g.	It is _____ for children to work silently and alone on seatwork.	○	○	○	○	○
h.	It is _____ for young children to learn through active exploration.	○	○	○	○	○
i.	Workbooks and/or worksheets are _____ to the prek/k program.	○	○	○	○	○
j.	Regular group practice on shapes, numbers, letters, months and/or words, etc. using materials such as flashcards and charts is _____ to the prek/k program for	○	○	○	○	○

In my opinion….		Not Important At All	Not Very Important	Fairly Important	Very Important	Extremely Important
	teaching.					
k.	A structured reading or pre-reading program is _____ to the prek/k program.	○	○	○	○	○
l.	It is _____ for the teacher to talk to the whole group and make sure everyone participates in the same activity.	○	○	○	○	○
m.	It is _____ for the teacher to move among groups and individuals, offering suggestions, asking questions, and helping children get involved with materials and activities.	○	○	○	○	○
n.	It is _____ for children to be taught the letters of the alphabets individually.	○	○	○	○	○
o.	It is _____ for children to color within predefined lines.	○	○	○	○	○
p.	It is _____ for young children to form letters correctly on a printed line.	○	○	○	○	○
q.	It is _____ for preschool children to dictate stories to the teacher.	○	○	○	○	○
r.	It is _____ for children to see and use functional print (telephone books, magazines, etc.) and environmental print (cereal boxes, cookie packages, etc.) in the prek/k classroom.	○	○	○	○	○
s.	It is _____ for children to participate in dramatic play.	○	○	○	○	○
t.	It is _____ for children to talk informally with adults.	○	○	○	○	○
u.	It is _____ for children to experiment with writing by inventing their own spelling.	○	○	○	○	○
v.	It is _____ to provide many opportunities to develop social skills with peers in the classroom.	○	○	○	○	○
w.	It is _____ for young children in prek/k to learn to read.	○	○	○	○	○
x.	In the prek/k program, it is _____ that math be integrated with all other curriculum areas.	○	○	○	○	○
y.	In the classroom setting, it is _____ for the child to be exposed to multicultural and nonsexist activities.	○	○	○	○	○

Adapted from *Charlesworth, Hart, Burts, Mosley, and Fleege (1993)*

In your opinion, how often should the following activities take place in a prek classroom?

	Never	Occasionally	Monthly	Biweekly	Weekly	Daily
Dramatic play	○	○	○	○	○	○
Block play	○	○	○	○	○	○
Science activities	○	○	○	○	○	○
Sensory play, i.e. water, beans, sand	○	○	○	○	○	○
Art activities	○	○	○	○	○	○
Child-initiated play	○	○	○	○	○	○
Outdoor play	○	○	○	○	○	○
Use of workbooks, worksheets	○	○	○	○	○	○
Use of story books	○	○	○	○	○	○
Preparing for/taking standardized assessments	○	○	○	○	○	○

Please indicate how much **you believe** the following influence **a teacher's** classroom teaching.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a.	Developmental and/or educational theories	○	○	○	○	○
b.	My educational and/or training background	○	○	○	○	○
c.	Community expectations	○	○	○	○	○
d.	Administrator expectations	○	○	○	○	○
e.	Standardized testing expectations	○	○	○	○	○
f.	School or district textbooks and/or required curriculum	○	○	○	○	○
g.	State learning standards (PASS)	○	○	○	○	○
h.	Income level of children's families	○	○	○	○	○
i.	Teaching styles of other grade-level teachers	○	○	○	○	○
j.	Expectations associated with NCLB	○	○	○	○	○
k.	Needs of the children	○	○	○	○	○
l.	Parents' expectations	○	○	○	○	○
m.	Funding and available resources	○	○	○	○	○
n.	Amount of time in the day	○	○	○	○	○
o.	Amount of available space in the classroom	○	○	○	○	○
q.	Research findings about classroom teaching	○	○	○	○	○

Appendix D. IRB Approval

Oklahoma State University Institutional Review Board

Date:	Friday, February 19, 2010
IRB Application No	HE1012
Proposal Title:	Survey of Pre-Kindergarten Practices and Beliefs
Reviewed and Processed as:	Exempt

Status Recommended by Reviewer(s): Approved Protocol Expires: 2/18/2011

Principal Investigator(s):

Linda Sheeran
226B HES
Stillwater, OK 74078

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

☒ The final versions of any printed recruitment, consent and assent documents bearing the IRB approval stamp are attached to this letter. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be submitted with the appropriate signatures for IRB approval.
2. Submit a request for continuation if the study extends beyond the approval period of one calendar year. This continuation must receive IRB review and approval before the research can continue.
3. Report any adverse events to the IRB Chair promptly. Adverse events are those which are unanticipated and impact the subjects during the course of this research; and
4. Notify the IRB office in writing when your research project is complete.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact Beth McTernan in 219 Cordell North (phone: 405-744-5700, beth.mcternan@okstate.edu).

Sincerely,

Shelia Kennison, Chair
Institutional Review Board

VITA

D'Lee Babb

Candidate for the Degree of

Doctor of Philosophy

Thesis: PRE-KINDERGARTEN CLASSROOM PRACTICES IN OKLAHOMA PUBLIC SCHOOLS: INFLUENCE OF TEACHER AND PRINCIPAL BELIEFS AND CHARACTERISTICS

Major Field: Human Environmental Sciences

Biographical:

Personal Data: Born in Jonesboro, Arkansas, United States. Daughter of Robert Marion and Sherion Dian Hurst Babb. Wife of Raymond Lee Estes.

Education:

Completed the requirements for the Doctor of Philosophy in Human Environmental Sciences at Oklahoma State University, Stillwater, Oklahoma in December, 2010.

Completed the requirements for the Master of Science in Child Development at Middle Tennessee State University, Murfreesboro, Tennessee in 2002.

Completed the requirements for the Bachelor of Arts in Family Development and Business Administration at Oklahoma Baptist University, Shawnee, Oklahoma in 1997.

Experience: Research conducted in child development. Courses taught in Human Development and Family Science.

Professional Memberships: Society for Research in Child Development, National Counsel for Family Relations, Society for Research in Human Development, National Association for the Education of Young Children.

Name: D'Lee Babb Date of Degree: December, 2010

Institution: Oklahoma State University Location: OKC or Stillwater, Oklahoma

Title of Study: PRE-KINDERGARTEN CLASSROOM PRACTICES IN OKLAHOMA PUBLIC SCHOOLS: INFLUENCE OF TEACHER AND PRINCIPAL BELIEFS AND CHARACTERISTICS

Pages in Study: 128 Candidate for the Degree of Doctor of Philosophy

Major Field: Human Environmental Sciences

Scope and Method of Study: The purpose of this study was two-fold: 1) to examine the relations between pre-kindergarten (pre-K) teachers' characteristics, belief in developmentally appropriate practices (DAP), and DAP classroom practices and 2) to examine the relations between principals' characteristics, DAP and testing beliefs, and preferred pre-K classroom practices. Sixty-six principals and 63 pre-K teachers from public schools in small districts (districts with only one elementary school) in Oklahoma participated. Principals and teachers completed questionnaires containing DAP, demographic, and time allocation information. Data were analyzed using correlations and regressions.

Findings and Conclusions: In the study of teachers, number of child development courses taken (r=-.29) and number of years experience teaching pre-K (r=.30) were related to DAP beliefs. The relation of DAP beliefs to DAP classroom practices was moderated by teacher's beliefs in the importance of obedience; DAP beliefs and practices were positively related for teachers with lower belief in the importance of child obedience. In the study of principals, principals' ECE courses taken (r=.36), ECE state test certification (r=.59), elementary certification (r=.34), number of years as a principal (r=-.25), years teaching preschoolers (r=.35), experience teaching 4^{th} to 6^{th} grades (r=-.35), and years teaching 4^{th} to 6^{th} grades (r=-.30) were related to principals' beliefs in DAP. Principals' ECE state certification (r=.41), ECE courses taken (r=.27), and years teaching 4^{th} to 6^{th} grades (r=-.33) were related to preferred DAP classroom practices and experience teaching 1^{st} to 3^{rd} grades (r=-.29) was related to use of workbooks and worksheets. DAP beliefs (r=.60) were significantly related to preferred DAP classroom practices. Testing beliefs were not related to principal characteristics or preferred classroom practices. The relation between the number of early childhood courses taken by principals and preferred DAP classroom practices was mediated by principals' beliefs in DAP.

Name: D'Lee Babb Date of Degree: December, 2010

Institution: Oklahoma State University Location: OKC or Stillwater, Oklahoma

ADVISER'S APPROVAL: Dr. Laura Hubbs-Tait